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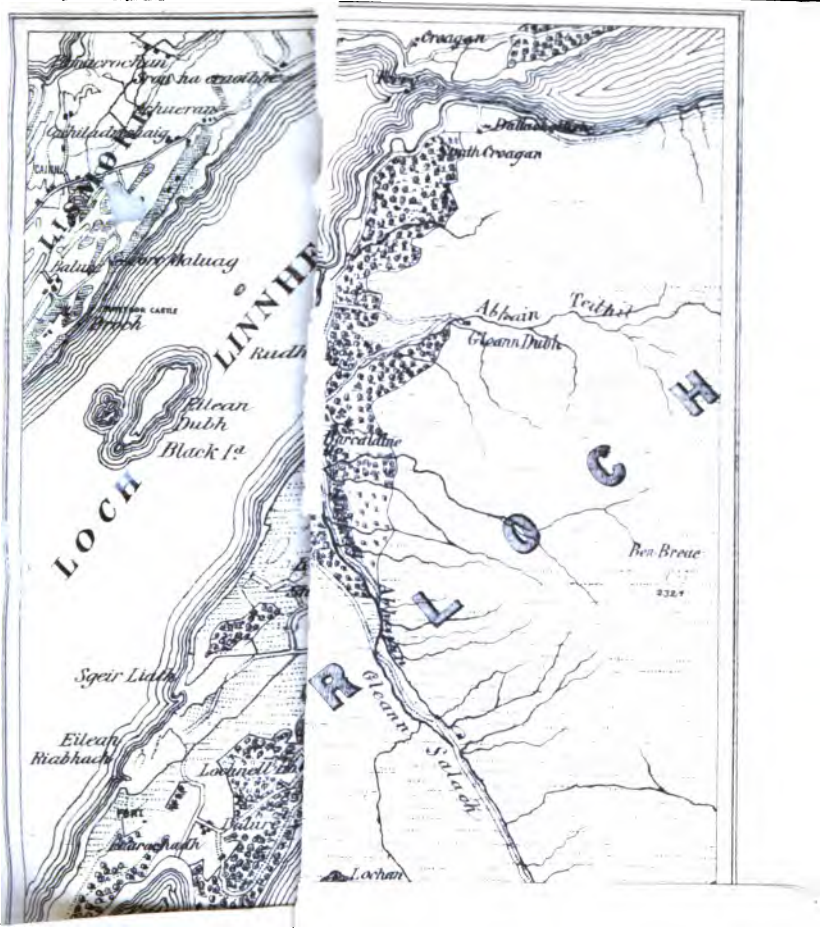
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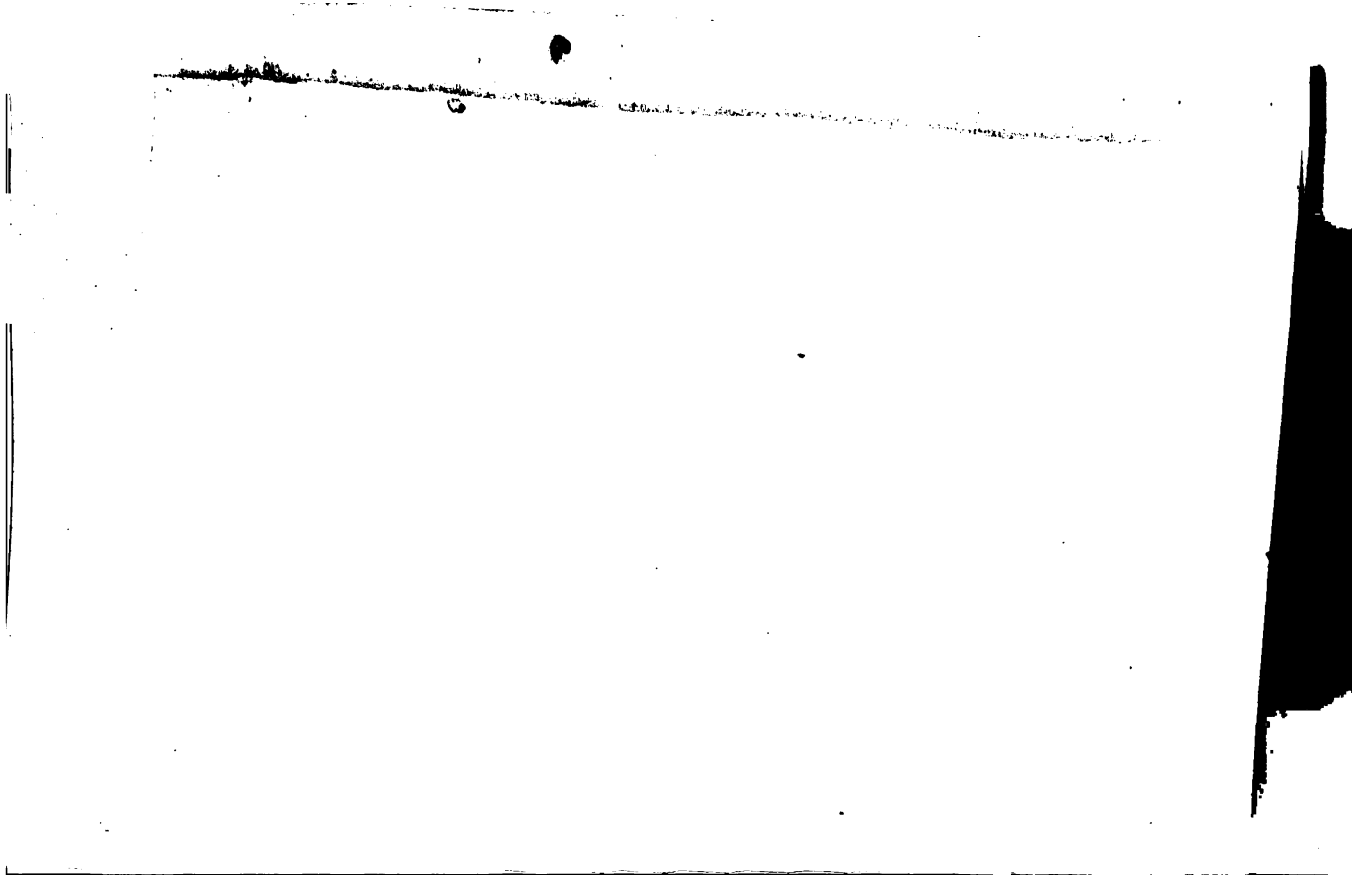

BENDERLOCH:

OR

NOTES FROM THE WEST HIGHLANDS.

BY

William
W. ANDERSON SMITH,

Author of "Lewsiana," etc.

SECOND EDITION. WITH MAP AND INDEX.

PAISLEY: ALEXANDER GARDNER.

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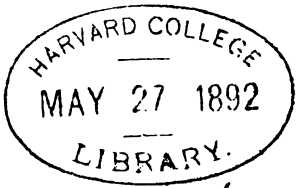

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PREFACE.

THESE unpretending Notes were originally printed in the *Glasgow Evening Times*, where they found an audience desirous of having them in a more handy form. To have re-written them would have removed the smack of the sea, and the fresh breeze caught on the Western waters, that the writer has sought to blow over the faces of his readers, weary from the desk, the workshop and the counter, or dazed from the theatre and the ball-room, and anxious to cool their excited imaginings in the simpler haunts of nature. If the little book gives an hour's relief to such readers, and helps to recall the salt sea brine and the corry, with all their wonders, to the lover of nature, the Notes will have secured their main purpose, and justified their re-appearance. If in addition the author has stimulated some to take up the great book of Nature, he is satisfied.

BENDERLOCH.

JULY, 1879.

A MONTH ago Loch Creran was as clear as crystal, and the most minute objects could be observed in a depth of two or three fathoms; now, even supposing it to be quite still, a quartz pebble could scarcely be seen at as many feet. The cause of this is the enormous influx of fresh water from the hilly shores—a deluge of rain falling steadily since yesterday morning, while the previous week was equally wet. Friday last was indeed a flood, the sudden rush of water from the sloping hills filling up all the culverts and overflowing the adjacent land. Along with this great storm of rain, we have a very heavy gale blowing from the south-west, preventing any important ebb tide, although to-day is full moon, while the flood tides are exceptionally high. Seeing the unusual rise in the tide, we went over to-day to a small island—a peninsula at low water—where, on Tuesday, we had observed the nests of various terns progressing favourably towards being filled. Four of them contained from one to three eggs each; these birds being later in arriving and nesting than most of our sea birds. It was with some difficulty we could realise the changed aspect of the place, but at length found one nest only, the others having been completely covered by the advancing tide; the mark of

July 3.

July 3. the last tide in a line of fresh seaweed was traced some feet beyond where the nests had been, and, on removing a pile of this, one damaged egg alone was found of the three flooded households. Overhead during our examination the bereaved parents seemed wailing; "who would have thought it"?—in the beginning of July too, when the bird of keenest foresight might have been excused being sanguine and hopeful of results.

On what principle do these birds and other sea-fowl, proceed to choose a location for their nests? That they must have used their experience and judged they were high enough seems reasonable to suppose, while some were more venturesome and trusting than others. They were all a yard or more under the mark of highest spring tides, so they had that line to judge from, and must have taken the risk of possible eventualities with their eyes open.*

There is a gravel spit running out into the sea some miles further up the loch, where both the ring plover and the oyster-catcher had their nests some six weeks since, and there the smaller and more rapidly incubating plover had taken the risk also, and laid its eggs on the scooped gravel much lower down from high water mark of spring tides than did the larger and slower incubating, or more astute oyster-catcher. Did the two birds calculate the relative difference of risk, or was the intelligence of the larger bird stimulated as being more constantly in danger?

These ring plovers remain here and breed along the

* Sea-birds are popularly supposed to judge from the highest tide in March, when the spring-tides are usually at the highest.

gravelly beaches. They appear to be so familiar with July 3.
the sea, and so careless of its presence, from seeking their prey on the very borders of the breakers, that they toy with its terrors, and the present high tide is now covering the ground where one nested in the early part of May, and where the nest of another allied species was invaded by a careless cow, which scattered its gravel-coloured contents. So closely, indeed, do their eggs resemble the gravel among which they nest that only a practised eye can pick them out, and thus, while eluding the observant and evil-disposed eye of the robber grey-crow, they often fall a victim to the foot of the well-intentioned but unobservant friend.

In a walk through the woods to-day in the midst of the steadily-falling rain, the dearth of small birds of all species that is so marked everywhere around this spring was still more notable in the watery woodlands, that seemed hopelessly to depress those that remained. Only the voice of a plaintive "shilfa" broke the silence along the two miles of charming woodland road, bordered occasionally with splendid rhododendrons in full flower. The helter-skelter of the swollen brooks was almost the prevailing sound, with the patter of the heavy showers, from the fresh leaves above to the recently discarded raiment below.

Never was there such a dearth of song birds in Benderloch—indeed, the recent hard winter has told upon such strong birds as curlews, herons, and even plovers, whose skeletons we have met scattered about; no doubt the two former, being dependent upon water, would suffer much amid the frozen brooks and marshes.

A drake here was killed, and his harem of three removed with the family to a distance of two miles by a

woodland road. In spite of the absence of their chief they have twice returned to their old home, about which they quack disconsolately. Whether the three widows have returned to seek their lord and master, or are simply home sick, the removal has been a failure, and, as they grow visibly thinner with grief or hunger, they are about to be slain ere it be too late! Did the owners trust to the sense or the stupidity of the females; their wisdom to know when they were well off, or their inability to return so far alone? We fear they did not know when they were comfortable; what does? To-day, a sparrow coolly popped into our sitting-room, hopped round inquiringly in its bedraggled homespun, declined the proffered banquet, and without undue haste or due ceremony defiled the home of its would-be entertainer, and retired. It must be the stupid weather: it knew no better than the ducks when it was well-entreated!

July 10. Last evening we went along to see a young cuckoo in the nest of a small heather lintie* in the neighbourhood. On the rocky moorland the foster parents had made their nest, between a mossy knoll and a small boulder, at the end of a hole about a foot deep. Here we soon espied the young tyrant, who now occupied the whole space, concealing the nest; for it was nearly full fledged, and already several times as large as its tiny providers. It

* There are two small "heather linties" much under the size of the common linnet, (*Linota Cannabina*) and yet not readily identified with any of the figured species. The eggs of both are about the same size, with greenish ground and distinct markings, but the nests are built quite differently, the one being simply coiled dry grass like a white throat, the other a neat cosily furnished picture of a home.

was, indeed, a big puff ball, with a bright crimson gape July 10.
open for offers, and was evidently swelling as rapidly as the poor little finches could possibly keep pace with. The curious point was that the moment anyone approached a finger, or any irritant object, the crimson gape dashed out at the article without attempting to close, but looking so formidable that, despite our knowledge that the bill was too soft to be felt in the slightest, we instinctively withdrew our hand at the assault. Indeed, it looked a most dangerous little creature, although we daresay the self preservative instincts of a cat or a weasel would have supported the mimic assault unmoved. This lintie is the smallest bird in whose nest we have known the cuckoo to breed.

The weather has been too severe for pleasure water excursions, but while rowing between Eriska Island and Appin shore, at the mouth of Loch Creran, we met our old friend of the further north, the sea pigeon or black guillemot (*uria grylle*). These birds seem especially local in their habitats, frequenting isolated and limited localities, and more especially affecting the swift waters between an island and mainland or two islands, where the contracted waters hurry by, often laden with small fishes. These birds are rarely found inside Loch Creran, nor, as we are given to understand, are they usually seen in the sound outside. We think Captain Colquhoun mentions the vicinity of the Isle of May as one of their localities.

Beyond Aird's Bay, on the way to Port-Appin, is a rocky headland with a cleft and a small resting place half way from the bottom of the cliff. We should at once have predicated the presence of a raven's nest, so thoroughly is it in consonance with that bird's predilections, and recently

July 10. it has been so occupied; but some time since a cormorant (*phalacrocorax*) commenced nesting thereon, and after some progress had been made gave it up and departed. Now, in the building of nests, birds, no doubt, seem to work by "instinct," but surely in the choice of a situation a certain amount of intelligence and reason is required. Necessity was probably the first cause of the cormorant choosing a situation so different from its customary habits, but after a time its foresight came to the rescue and it desisted, probably aware that it could not get its young well thence to the sea, and that it was otherwise eminently unsuitable. From such a transparent want of its usual judgment, must one not suppose that there is generally a certain amount of judgment exercised in the matter?*

The absence of warm weather seems to have kept all kinds of fish behind this season. During May and June large quantities of skate enter Loch Creran to deposit their eggs; while black, gelatinous, hand barrows may be seen among the sea-ware over most of the loch. These hardy omnivorous fish, which thrive well in Scotland owing to the little estimation in which they are held by the people as food, have yet their deadly enemies. Some days ago we found on the beach the carcase of a toad-fish, sea-devil, or angler (*lophius*), upwards of $3\frac{1}{2}$ ft. long, and in evidently prime condition. This is the second we have seen thus lately, and we opened the stomach to see if we could find any reason for its sudden end. Inside we found the body of a skate, which must have been about as large as the voracious animal itself; and we are

* We have been assured by an eyewitness that the cormorant has carried its young on its back to the sea from a similar situation.

told of another with two large sized skates in the stomach having been taken in this same loch. We could not say, however, that this big dose was the cause of death, as the skate was partially decomposed, and this means some time in such a cold-blooded-vertebrate-stomach as the sea-frog really is. July 10.

The district of Barcaldine, although well wooded and particularly suitable for squirrels, with fir cones and acorns in plenty, was only visited by them within the last few years. The first was shot by the under-keeper in July either two or three years ago, and he wondered what strange creature it was. Since then their nests have become common, and we have watched the graceful gambols of the beautiful creatures among the trees by the roadside, fancying they were always there, like the stately and beautiful silver firs along the hill sides, which yet are also only new-comers, notwithstanding their pre-eminence, as in the history of woodlands it may be said to be "yesterday" since this beautiful pine was introduced. Here they have indeed found congenial room, and greatly add to the beauty of the already charming landscape. But where did the squirrels come from, and how did they learn that a land of cones and acorns nestled so warm and snug on the southern shores of Creran? Is the schoolmaster abroad among the tree tops, or is it stern old mother necessity that has driven them forth like hungry Scots to fresh fields and pastures new?*

The other day we brought ashore in the net two specimens of the small-mouthed Wrass, or Rock Cook (*labrus* July 24.

* The squirrels have at length reached Balue, Lochnell; having taken some years to occupy the intermediate ground, and cross over the long woodless stretch of moorland that intervenes.

July 24. *exoletus. Lin.*) This fish is rarely taken in England, and Couch does not seem to have met with any large specimens. He speaks of their being four to five inches in length, while the smallest of those we obtained was five and a half inches; the larger quite seven inches long and two and a half inches deep—a plump, trim specimen of its not very valuable or valued class. Both were mature fish, and heavy with roe, and yet so inexact observers are ordinary fishermen that they spoke of them as "young perches," mistaking them for the young of larger allied species, such as the Ballan Wrass (*labrus maculatus.*) Fish of all kinds are now coming into our lochs and bays; mackerel, herring, and sea-trout all being taken just now in quantities in Ardmucknish Bay. A thoughtful friend has just left plump specimens of all three kinds at our door, and the contents of the stomachs of the sea-trout amply account for their appearance. Quantities of rich herring fry distended them; and such fry must also be invading Loch Creran, as the sea-trout are leaping freely, and gulls and other sea fowl are crowding together in restless anxiety.

The season has been so late that it is only now the various fish fry are appearing. Scarcely a stone among the seaware but conceals the gelatinous eggs of various fish and sea slugs, some of them with fully formed young absorbing the surrounding jelly. The effect of this gelatinous condition of embryos is to turn ordinary observers into embryo-Darwinians, believing that all jelly bodies are in a transition state. Thus my men solemnly assure me that the common Medusa becomes a star-fish; deluded by the slight similarity of its centre. They scarcely believe in the lower organisations except as steps

to a higher, and "What does it turn into?" is the ever-recurring question respecting such creatures. July 24.

When running the boat into the outer verge of sea-ware, and drawing the weed aside with our iron rake, the water in some places is actually "hotching" with small swimmers about half-an-inch long. These are found to be a species of small crustacean, evidently taking refuge from their numerous enemies until they may with more safety proceed to their favourite haunts on the muddy or marly flats in the vicinity. We have not met with shrimps in Loch Creran of any great size, but on the southern side of Benderloch they are of good marketable and edible dimensions. Scotland is far behind her southern neighbour in attending to the minor fisheries, and the inhabitants of the district laugh good-humouredly at the idea of any one eating creatures of which a hundred would not constitute a good Highland mouthful.

Two months ago we brought up in the dredge various large finger-like gelatinous bodies, so soft that they had fixed themselves to the stones and shells on which they had been deposited. This alone prevented them floating ashore, when they would have dried hard, and too tough for the exit of the strange head of the proprietor. One of the occupants, fully developed, came ashore in the net with the other fishes a few days ago; for these were the eggs of the cuttle fish or octopus (*sepia octopus.*) A true epitome of the giants,—whose powerful arms and parrot beaks are now so well known to readers of romances,—is this little creature, against whose mightier relatives the sperm whale is so wonderfully adapted to contend, and to follow to the lowest depths of the Antarctic seas. The dislike of the multitude to everything slimy prevents them sufficiently examining this

July 24. interesting animal, with its large iridescent eyes for seeing its prey by night, its long tentacles for ascertaining its whereabouts, its eight sucker-covered arms, and its hard beak, the only firm portion of the gelatinous mass, always excepting the outer shell.

We caught a young bird of the merganser species two days ago, as it hurried valiantly along the boulder-covered shore towards the water. The saw-bill duck as it is here termed, goosander or merganser (*mergus merganser*), is extremely common about Loch Creran, as well as the southern shores of Benderloch, and divides with the harsh-toned oyster-catcher, or sea-pie, the main control of the coast. It keeps more to the water than the latter bird, and is less frequently heard as well as less conspicuous than the sea-pie, with its red, black, and white combination. We have not found them so extremely unpalatable as some authorities declare, but it is certainly inferior to the oyster-catcher in this respect, which, skinned—as all sea fowl should be—is accepted by many delicate feeders with satisfaction.

We had hoped to have kept our little prisoner, whose beautiful breast and elegant head were a pleasure to look upon, but it did not survive the capture beyond an hour, apparently fretting itself to death. The coarser nature of young gulls does not succumb to captivity, but they readily tame, and many may be seen at present gobbling about a Benderloch farmyard, the successors of some who fell victims to the mistaken zeal of a certain honourable sportsman.

A large whale, apparently a rorqual or finback, has been about Ardmucknish Bay every evening for some time back. It is so named from the large fin, like a shark's, that sticks right up in the middle of its back; and it is

not in favour with whalers. Long and thin, with poor whalebone and little blubber, it dies hard like a fighting Scot, and yields little plunder. No doubt it has followed the shoals of herring and mackerel into the bay, as these fish constitute the main food of this rather dangerous whale.

When walking along under the trees last evening, we saw a squirrel leave its neighbour close by us, and take its spiral way up a tree. The deserted companion seemed in distress, and we speedily went to its relief. To our astonishment it appeared to have its neck broken, and its eyes were fast glazing, while already quite a number of large red ants were adding to its agonies, and commencing to devour it alive. These were with difficulty dislodged, and one bull-dog ant had such a grip of the poor creature's nose with its forceps, that it allowed its head to be dragged off rather than leave go its hold. July 31.

Finding we could not save the squirrel's life, we put it out of its misery, cutting off its little brush as a remembrance. This tail we found to be almost prehensile, muscular to the tip, and containing eighteen vertebræ, which accounted for the ease with which it carried this graceful appendage straight out behind it, when galloping through the long grass.

Are these beautiful animals really destructive to our woods? Accustomed to them from our boyhood as an ornament of our finer forests, we are surprised to find they bear the blame of damaging some woods in Ross-shire to the extent of hundreds of pounds. This is not simply by eating off the young tree tops, but cutting off thousands in reckless frolic. They likewise, it is said, form spiral roads up the trunks of the larger trees, until these are killed by the injury to the bark, while the tops

July 31. are snapped off in hundreds in the first gale. We know their ways are crooked, as they always ascend a tree spirally, but we have never heard such extensive injury attributed to them elsewhere. As the edict has gone forth to destroy them utterly, can any field naturalist corroborate, or refute for the benefit of the woodland beauty, this libel on its character?

The larch trees by Loch Creran are at present suffering from a curious blight, which gives them for the time being a very elegant appearance. The trees appear as if a slight fall of snow had fallen over them, and glisten in the sunlight as if silvered with frozen rain-drops. On examination, the snow turns out to be a fine resinous fluff, apparently exuding from the spiculæ of the tree, under the puncture of innumerable small insects. This has been observable for some weeks, and the result is now apparent in the drooping and less vigorous appearance of the trees, which are nowise thriving. Other firs are untouched, such as the Scotch, Spruce, and Douglas pines, all amid and around them. The bleeding going on from each individual tree must be great, and shows how rich this tree is in juices. Indeed, when cut in summer, it bleeds turpentine like blood from a cut finger.

The dredge has been bringing up still masses of gelatinous eggs of cuttle fish. The tangle stems are clothed with the roe of various sea fishes, and the destruction of embryo life caused by a heavy trawl at this season must be considerable. We have known lately two barrels of herring fry being taken in one draw of the seine net (or "trawl net" of Tarbert); but yet when we consider the terrible destruction of young by other fish, not one of which can be taken just now without a stomach distended with fry, we can scarcely think

humanity so destructive after all. Much is said as to the injury to fisheries of certain engines of capture, and in limited spaces this may be accepted as true, but the bulk of spawn gains safety, and young fish seek shelter, amid the seaweed-covered rocks, where neither beam-trawl nor seine net can follow them. July 31.

A finely tasted species of scallop of small size, 2 to 2½ inches, comes up in the dredge from 8 to 12 fathoms water. The boatman took a mud-covered specimen and held it over the boat to wash, and we awaited the result, which was shortly announced in an amazed "Dear me! it's jumpit out of my hand." The scallops by expelling water sharply from their shell, shoot themselves to a considerable distance, and if the circle of diamond-like eyes surrounding the inner edge of the shell are true organs of sight, they must be well able to see, as well as to seize, an opportunity.

Two shells shaped like pelicans' feet and containing strong live molluscs came up from 8 fathoms. The animals carried their heavy, unwieldy-looking shells with ease, and readily turned over when laid on their backs. The reddish-coloured snout like a pig's, with tentacles at each side, at the foot of which the eyes are seated, actively searched the surrounding water for prey, and the worm-like animals of the turritella hurriedly withdrew into their shells on perceiving the vicinity of the pes-pelicani. Many of these elegant spiral turritella, animals of the same order, came up along with their brother molluscs.

It is curious to observe the very local habitats of such low-class organisations, they congregate in multitudes about certain limited localities suited to them, and are not to be found, except in isolated instances, close alongside. In the multitude of individuals there seems to be

safety for the species, and the few that wander from the locality get amid a multitude of other individuals of a different class with whom they cannot contend.

Professor Forbes found brittle stars (*Ophiocoma*) in the vicinity of scallop beds; this is also our experience. Whether they prefer this mollusc as food, as ordinary star-fish do oysters, is a question. We recently saw a large star-fish, or common five-finger, carrying a cockle in one arm, which was folded round it, while with the others it struggled with the advancing tide, which threatened to throw it landward. We did not see the result of this assault; but have no doubt the shell-fish had the worst of it, as it has been observed that star-fish not only enter partially-open shells, but "suck" the occupants from apparently secure habitations with their numberless suckers.

AUGUST, 1879.

Aug. 7. "You can spread butter wi' your thoom'," as the old woman remarked; but the spread of knowledge, even the most simple, is a very different matter. We gathered Carrageen moss on the shore opposite our place some days ago, after being assured by a most intelligent native, who had heard of such a thing being used by a lady some miles away, that no such seaweed was on our shore. None of the natives here seem to know how to make use of this agreeable source of blanc-mange.

Our henchman came to inform us a few days ago that he had seen a hedgehog for the first time. His dog had discovered it, and he could not understand how such a prickly ball had got where it was. He had no idea it had

legs and could run about, and was disgusted with himself Aug. 7.
for not having carried it home with him. We were naturally astonished at the ignorance of a skilled woodsman and keeper, but it seems that this must have been one of two animals brought from Bonawe by a gardener, as none have been found hitherto in Benderloch? These two had escaped from durance and taken to the woods, and no doubt will find the place suitable, and, like the squirrels, increase and multiply, adding another interesting animal to the fauna of the district.

The comparatively isolated character of this corner, "between the lochs," only joined to the mainland by mountains, almost insurpassable to certain classes of animals, will account for this blank hitherto among the fauna.

It is rather ticklish work walking along the roads at present, between the gloaming and the mirk, as "Froggy would a wooing go," and his sweetheart is invariably on the opposite side of the way! A large proportion of the spawn, that filled the ditches in the spring, has reached maturity, owing to the continuous sloppy weather; and they go flop, flop, on every side about the witching hour when the earthworms come up to look about them. A friend once described to me a very interesting encounter he witnessed, between an earthworm of large size and a very hungry frog that had caught it stravaiging over a flower bed on a summer evening. The frog made repeated and desperate efforts to swallow the worm by great gulps, the worm, taking advantage of the periodically relaxed hold to withdraw its already engulphed end as far as possible. After a lengthened struggle, the half-suffocated frog had managed to gorge about one-half the wriggling and struggling creature, when the latter reached the stem of

Aug. 7. a rose tree, despite the strenuous endeavour of the frog to prevent it. No sooner had the worm reached this, than, using it as a point of support, it carefully and gradually wound itself around it, until it succeeded in withdrawing its whole length from the "living tomb" of the froggy, and coiling itself in safety round the stem. The frog sat back for some seconds, disturbed in its mind and its interior, and then hopped disconsolately away.

We obtained from the rocks a fine specimen of a nudibranch, or naked-lung mollusc, a few days ago. In colour it mingled shades of lilac and pink, and the beautiful circle of branching lungs exactly resembled the leaves of green kale, arranged in a rosette. These delicate apparatus are not visible when the creature is seen out of the water, as it then is but a slimy mass, as apparently uninteresting as its prey, the sea anemone, under the same circumstances. The breathing apparatus is then withdrawn inside the gelatinous covering of the animal; and one only wonders how infinite are the arrangements of Nature, to think such an important part of a living creature could not only be so much exposed, but be its main adornment. When taken from its rocky resting place, its molluscous character is at once apparent, from its resemblance on the under side to the animal of the limpet.

It is surprising the amount of edible matter supplied, in a very limited space, by certain classes of shell fish. We recently measured the capacity of three shells of limpets, taken from amid hundreds of their fellows by which the rocks were covered. Each held as much as a good dessert spoon, and one held something more. As each of these shells is filled to the edge by a most nourishing shellfish, always obtainable, as it frequents the

very highest points to which the tides aspire, the wonder is that so many are left to reach such large dimensions.

We have recently had a bit of blue sky, and on remarking to "Donald" that we sympathised with our ancestral sun worshippers, now we had a glimpse of its face, "Yes!" was the reply, "when I was herding in Glenure—a deep dark glen at the head of Loch Etive—I used to drive the cows two miles just to see the sun." Here, indeed, was a sun worshipper!

The harsh call of the peacock, a sure herald of rain, has never failed us this summer in Benderloch, and yet we have cut our hay, and are patiently awaiting a good blink to get it ricked. We are used to severe skyie influences, yet thrive thereon.

Yestereven in a field new mown, we came upon two Aug. 14.
specimens of the whimbrel *(numenius phœopus)* or little curlew, a bird that is very rarely met with in this district. The keeper tells us he has only seen one shot in the neighbourhood. The ordinary curlew is a very shy bird indeed, and at this season frequents the shore in large flocks; but the whimbrels were quite within stonethrow, and allowed us to toss chunks of the neighbouring rocks about their ears without evincing the slightest alarm. These birds not frequenting the shore as the larger curlew, but keeping more to the dry, inland pastures, are of a still finer taste than their relations, and we can quite sympathise with the old Roman weakness for this extremely tender morsel. So unacquainted are the general public with this species that most would sympathise with the Cockney rhymer:—

"As I was walking in the Zoo,
I met a whimbrel and a smew;

Aug. 14. I could have played upon a timbrel,
For joy that I had seen a whimbrel . . .
I never saw the like before." . . .

There has lately been a case before the Courts as to cattle poisoning by a yew tree; but in Lochnell district a quantity of yew cuttings were left to the horses and cattle without any injurious result, and a young lad in the vicinity has always eaten freely of the yew berries. We own to having accepted the popular belief as to the poisonous properties of the yew, and there seems no question that certain animals are injuriously affected thereby, as many well-authenticated cases prove. The animals, however, are considered safe if they only eat a small quantity among their food, a large proportion of other foods rendering it harmless. An authority informs us that, although innocuous when fresh, the yew cuttings are most poisonous to stock if decayed. The berries, however, it is well to know, are quite innocuous to some.

On Saturday evening last, about nine o'clock, we met a very unusual phenomenon. The road by Loch Creran, through Barcaldine, emerges from the woods, and skirts the shore along an embankment for several hundred yards, ere again entering the protection of the trees, when it leaves the shore. As we left the woods, walking westward, the chill of the decidedly cold evening continued for 50 yards, when we suddenly stepped into a warm region, that seemed 20 degrees higher than that we left. Turning about we retraced our steps, and again, at the same spot, reached the cold area we had previously left. The line of demarcation was so sharply defined that one step passed it. If the wind had changed it might have accounted for it, but it continued blowing from the north

across the loch. Had we met the warmth the moment we left the trees, and reached the open under the influence of the sea, it would have been explicable. As it was, the colder atmosphere gradually returned as we entered the wood at the other side; but how to account for this so sharply defined, warm stratum? Aug. 14.

As an instance of the effect of the wet summer, we found to-day that the sap-wood (or alburnum, that grows next the bark) had been growing all round the cut end of a number of larch logs, cut in February, and transported to the sea-shore. Besides this continued growth of the sap-wood, so long after the trees were apparently helpless logs, the smaller ends of the lesser logs had thrown out fresh green sprouts, which were growing vigorously, although these logs were piled upon the top of the others, and not resting upon the damp soil.

When considering these trees we may mention that there are two ash trees, at some distance apart, whose bark is split up from the bottom of the tree to the top of the main branch. They have not the appearance of having been struck by lightning, but more as if the growth of the sap-wood had been more rapid than the bark was prepared for, and it had been split up as a gourmand would burst his waistcoat over an exceptionally good dinner! Doubtless the soil and the situation have to do with this, as a row of fairly-grown ash trees elsewhere are all unblemished.

In dragging up the tangle forest this forenoon, we did not find so many small fish as formerly, while the shrimps have apparently deserted it for the time. The peculiarly brilliant hues of the dwellers among the golden fronds of the tangle were, however, apparent in the few fish that did come up; even the usually sober-coloured and

extremely active butter-fish (*gunnellus vulgaris*) was introduced into the boat in a brilliant golden livery. Strange that such lively fish should be caught thus.

These small fish, that originally take to the tangle for protection, seem to cling to the fronds the more tenaciously as they find them moving off, and, although free to desert them at any moment, allow themselves to be lifted into the boat with the hitherto protecting seaware.

A corkwing (*crenilabrus cornubicus*), a species of wrass or seaperch, made its appearance also among the ware, and, strange to say, died almost immediately, although that class of fish is commonly hardy, and readily endures lengthened withdrawal from the water.

The exuberance of life in the tangle forest is very great: besides the numberless small silverbuckies, a large dish of well-grown whelks, each in an embroidery of serpulae, tumbled into the boat; while many lines could have been baited with the wriggling annelids that clung amid the roots.

Aug. 21. We have lately had some good weather, during which one could occasionally peep through the ocean mirror, towards wonders as great as Alice witnessed behind the famous looking-glass.

Wandering along in our boat, awaiting low water and a placid sea, we suddenly find the rippling water to cease its prattling against the side of the boat, and a blinking sun to reveal to us glimpses of the ocean world. The ebb tide has been exceptionally low in Loch Creran, as it commonly is when it is low water about two o'clock, so that two days after full moon about this hour it is best.

Anxious eyes are scanning the sea bottom as we float along, until we find ourselves over the tangle-covered

"cairn," around which the lythe* most do congregate. Aug. 21. Lower and lower sinks the retiring tide, and our gunwale is soon little more than a yard from the sandy ground about the rocks and stones, whence the tangle leaves are now lifting their unaccustomed heads above the tide.

What is that! says Donald, as he launches his ready oyster-graip at a sneaking thief of a dog-fish skulking slowly along, stolidly, and apparently stupidly, over the sandy bottom. The dash of the iron graip rouses its sense of self-preservation, and with a tremendous splash it shows its white belly and hurries from the scene. These are not the famous, or infamous, "picked dogs," whose multitudes bring desolation among the cod and ling captures, but the Rough Hound (*squale roussette*), a ground feeder, and much duller fish. In some parts these spotted dogs are called "blind fish," from the half-closed eye, which gives them a most villainous appearance.

But we have drifted again over the tangle, and, despite our shady presence, the young lythe in multitudes are playing merrily around. Here, too, are precious molluscs, oysters that have braved the battle and the breeze for many a year, and will no doubt continue thus until the shells are as thick through as your palm, and as large as your hand; for none can drive them off these rocks, and only some of those huge star-fish we see lurking with two rays under a stone, can pit their age and experience against the failing powers of the mollusc. Horse mussels (*modiola*) 6 inches long are quite common, and this size is frequently exceeded; while oysters and mussels, growing together in dangerous rivalry, are drawn up to the daylight.

* (*Gadus pollachius*) anglice Pollack.

Aug. 21. Suddenly our graip is launched out, and another crawling thief to appearance,—although its mode of progression cannot thus be indicated,—goes flapping, splashing, and twirling through the water. Where, indeed, is our skate spear? for we would have secured more than one of these fish this fine, clear day; and fresh fish of all kinds is as scarce just now in Creran as they are numerous in Lochnell. On the spiller line yesterday we only procured two dog-fish—one of those above-mentioned, and the other a nurse hound (*scyllium stellaris*)—while two skates escaped in time. All these fish are of a similar character; and to see a skate swimming along at the bottom of the water it closely resembles a dog-fish with wings; as one of these small ground sharks certainly resembles a skate. This is especially the case when both are on their backs, their mouths being almost identical. Again, in their internal arrangements they closely coincide, both skates and ground dog-fish having quantities of eggs like hens; the two we captured, although of different species, being full of eggs now, as the skates taken in May and June were. None of these eggs were in their final capsule, and Couch mentions that they are never taken in that stage; but, on a tangle stem, from some fathoms down, we drew up two days ago a strange conglomeration of embryos and ascidians, in gelatinous groups of varied shapes and many tints, from delicate green to beautiful pink; and caught by its twisting tendrils was a greenish yellow purse or egg of the rough hound, with its occupant. These are the same as the skate eggs when deposited, excepting that the tendrils of the dog-fish twist about, while the skate's are more like prolonged hooks.

In the stomach of the nurse hound was found the

opercula of some half-dozen dog-whelks that had been devoured; the leathery, shell-like foot-covering of the whelk alone remaining undigested. In the other, a shrimp and small crab alone remained distinguishable; proof, if more were wanted, that the food of this fish consists mostly of crustacea and mollusca. Aug. 21.

But we have wandered from the sea-bottom after the dog-fish, and note not the wonders beneath us. Whole miniature worlds lurk in every ocean waif. There is the old leather buoy of some fisherman, with crustacea, mollusca, and numberless lower forms of life rampant within its torn folds. Here comes up a bundle of surpulæ tubes on the back of a dead horse-mussel, with a dead oyster attached; inside the oyster shell a scallop has slipped for safety, but in vain, for the foot of a grim dog-whelk has laid hold upon it; behind in the further recesses lurk several pea-crabs, a species of which miniature crustacean occasionally dwells within the shell of the live horse-mussel for safety; several small fishes have just absorbed their gelatinous surroundings, and half gelatine still, flounder helplessly amid the gelatine bags that contain their congeners; while minute zoophites upon the outer shells, with ancient balani of large size, and small shells of patella—or limpet-shaped molluscs (*nacella*)—complete the fighting, restless, active, aggressive and progressive world we have dragged to light.

Great hauls of herring of the size of sprats have been lately taken in Lochnell Bay, but they are readily distinguishable from the sprat, which so many still believe to be an immature herring. The long disputed fact of the parr being a young salmon having been satisfactorily decided by the interesting change into smolts in the Brighton Aquarium, on the entrance of sea-water, the

authoritative proof of the specific distinction between sprats, herrings, and pilchards may yet be forthcoming to satisfy a dubious public.

Aug. 28. It seems quite a peculiarity of many of the lochs of the West of Scotland to have comparatively narrow exits into the outer sea, through which the rising and falling tide rushes back and forward with great force. We have on the Clyde a striking example in the Gareloch, where the tideway between Roseneath and Row is most energetic and disturbing. We have a similar rush, only with much greater force, as carrying more fresh water and having a greater surface, in Loch Creran. Where it meets Loch Linnhe, the island of Eriska lies across its mouth, and the island being a peninsula at low water, makes a sudden alteration, at a certain stage of the tide, in all the currents about it. Here it is difficult to row out or in unless the tide is attended to, the force of the current being so great.

This peculiarity of our lochs reaches its most prominent and characteristic example in the famous falls of Connel, where Loch Etive throws its 23 miles length of waters between the approaching rocks, and over the submarine obstructions it has in vain sought to wash away during centuries of struggles. The whole land around is full of pre-historic remains, which have been carefully studied by a judicious and exact observer. The Fort of the Sons of Uisnach (Dun Macuisneachan); the Fort of the King's town (Dunvalanree); the cairns, cromlechs, circles, and standing stones which have remained apparently unchanged, with the original names attached, since the early centuries of our era, are all thoroughly examined. We have long been familiar with these objects, and most have held them in affectionate

veneration, but we are proud to find in "Loch Etive Aug. 28.
and the Sons of Uisnach," that we are living amid the "disjointed members" of the oldest story really connected with Scotland. The writer brings loving care to a work demanding a calm judgment and much research, and elucidates with remarkable exactitude the various localities still bearing the memory of the heroes of this famous Irish story of the early centuries.

But Benderloch claims a double attraction in its northern Loch Creran, whose many beauties require but to be known to be appreciated. It has been greatly disappointed at being left out in the cold, so in order to soften somewhat this apparent slight, an enthusiastic admirer has penned the following :—

LOCH CRERAN AND LOCH ETIVE.

Loch Etive bent his lordly head
And smoothed his granite hose,
And turned where Lady Creran lay
In beautiful repose.

Her elbows on the Appin shore;
Her limbs swept to Ardtinny;
Her gay feet tossed the waters o'er
That danced adown Loch Linnhe.

Her dainty head among the hills—
Veiled like an Eastern charmer—
Barcaldine woods her bosom frills,
Bedecking, while they warm her.

And all the way, by rock and bay,
She wears the Fairies' green;
Save where the Royal purple floats
From heathy bord'ring screen.

Aug. 28.

She turns, and with half-closèd eyes
Sees Cruachan's double peaks;
The light, that all his forehead dyes,
With blushes floods her cheeks.

"I bear the palm in storm and calm,"
The lordly Etive cries:
As, bending o'er Glen Etive's side,
He looks in Creran's eyes.

"The sons of Uisnach's glory's mine;
Mine, woods and rocks of Naisi;
The record of my fame is clear,
When thought itself was hazy."

She whispered back in dreamy mood,
Half gaily, half in sorrow,
"Go, bear your ghostly palm to-day,
I'll wear my *wreath* to-morrow!"

"My ghostly palm!" Loch Etive cries—
And Connel spurns in passion—
"In learning's garb, in wisdom's guise
It lives! in double fashion."

The petted beauty turned, and hid
Her face amongst the heather;
But, when the sun o'er Morven slid,
Their heads lay near together!

Round by the rocks at Aird's Point, on the way to Appin, we came upon 12 large herons standing upon a small sea-girt rock, so that despite the wet season, and the tender nature of the young of these birds, they seem to have multiplied fairly. One cannot turn a point in the loch, at present, without encountering one or more of them quietly fishing in the shallows. The oyster-catchers, too, that have been breeding on the moors and inland lochs, have returned to the sea coast; and for the

past ten days have formed into a great flock, generally congregated on some rocky corner of the coast. Equally active and vociferous, as well as elegant in form and attire, they were always a marked feature of the shore; but now, in their collected groups, they seem to absorb the bird life of the loch.

SEPTEMBER, 1879.

At the head of Loch Creran, ere entering the narrows to the inner loch, is a well-sheltered sandy bay. This is covered with *zostera marina*, even far above low water of ordinary tides, the ground under it being unstable. Such an instance is very rare, as it is always considered to be a very low tide that shows the sea-grass. Over this grass, on the merest blink of sunshine, the whelks come to bask therein, and here they may be seen on a summer day crawling all over the bay. Where the grass grows not, cockles are numerous and well grown, and the "big horse" *mya arenaria*—a large, coarse species of shellfish—fringes the bay, and may be detected by the hole in the sand. Trickling through the extended foreshore is a fresh-water stream, and in this, but within the influence of the tide and the growth of seaware, were many small fishes which proved to be the little goby, (*gobius minutus*) none more than 1½in. long. These we took promptly from the fresh water and plunged into salt to carry home, along with some small dabs. Afterwards they were removed from the salt and plunged into fresh water, without apparent inconvenience! Sept. 4.

The soil under all these bays in Benderloch, both north and south, is a fine clay, mingled with the disintegrated

Sept. 4. shells of myriads of the genus *cardium*, *astarte*, &c. The result is almost an exact counterpart of Portland cement; and, even unburned, and with the addition of some more lime, makes a hard and fairly durable floor, mostly used for kitchens and cottage floors in the district.

In sweeping the fine muslin net amid the smaller fry that fringed the seaweed at low-water, the occupants proved to be small specimens of the tail-spotted goby (*gobius attenuatus*), mentioned as rare by Couch. Those we obtained were young fishes, little more than an inch long, but quite distinct from the other species with a similar mark.

The appearance of half-a-dozen seals, one of great size, was contemporaneous with the disappearance of a spiller line with several score of hooks, set right in their course, so that they probably seized some of our fish captures, and dragged the whole line away. Some of them are probably doing penance ere this, as these mammals cannot endure with equanimity treatment that would little incommode one of the more voracious fishes.

On Sunday last we heard the grasshoppers chirping, and saw the dragon flies on the wing for the second time this year. What they have done since then is difficult to guess, as the quantity of water that has fallen is amazing. Places seldom flooded were under water, and the whole country soaked. Benbreac (the speckled or spotted hill) was speckled, indeed, with the foaming white torrents that rushed downwards from its rocky crown, and turned the stream above Barcaldine House into a roaring cataract. Here there is a very fine waterfall and rapids at such a time, one that can compare in grandeur with many better known; but the hill is so steep, and the turf so easily "surfeited" with water, that it soon subsides

to its ordinary dimensions. For the time, however, the Sept. 4.
rushing, foaming, tumbling waters—boiling and surging its dark waves to meet the innumerable silver bells that leaped with them over the next obstacle, and splashed the creamy spray among the gay foliage of rowan, and over the fern-clad banks—was a beautiful and stirring sight. The river has a most poetical and unreliable existence, great and charming by spurts, and with infinite possibilities in its ordinary, cheerful, humdrum course.

Not only the cormorant, but the solan goose, had been driven inland by the recent severe weather; one of the latter having been observed flying over Barcaldine during the gales. Even to-day, as we sped along before a cold westerly wind, Loch Creran was gay with gulls, from the large herring-gull to the tern, and the cormorants hurried away before our approaching sail. The ring plovers like other birds, are now in flocks, and restlessly active as usual along the sea border. As if the smaller birds had not suffered sufficiently during the last protracted winter, they are now being killed in numbers by the wet—those we have seen dead being in good condition, without any apparent injury save from the inclement weather!

Last year mushrooms were obtainable in very large quantities ere this, but they are scarcely visible yet. As not only the deer, but most other animals, wild and tame, eat *agaricus campestris*, humanity must look sharp and secure them in time about here.

In vain have we sought in the neighbourhood for the common stickleback, nor have any of those we have questioned met with it hereabout. Still, it may not be really absent, although in waters where in most districts these ubiquitous little fishes would have been numerous they have not as yet been found by us.

Sept. 11. It has been often remarked that a careful account of our failures would be as valuable to others as our recorded successes. We have recently lost several would-be marine pets through keeping them for some days in large meat tins. Although they were supplied with green ulva as oxygen producers, the little fishes died apparently of asphyxiation. Not until the evil was done did we observe the cause. As rapidly as the oxygen was evolved by the ulva, the exposed iron of the imperfect tins converted it into oxide, and after a time the surface of the water was covered with a fine scum of this iron oxide, so that, the water being thus drained of its vivifying contents, the poor fishes died as stated.

For the aquarium, no class of small fishes are more elegant, lively, and interesting than the gobies. We took quite a number of the yellow goby (*gobius auratus*) from among the seaware, and a very beautiful species it is. Scarcely more than two inches in length, it is of more robust construction than most others, with beautiful alternate bands of pink of a semi-transparent character on the dorsal fins, eyes with a pink iris, and bright blue spots at posterior angle of the first dorsal fin.

If possible a more interesting species is one apparently answering to the description of the speckled goby (*gobius rhodopterus*). Elegantly marked with shades of brown on its almost transparent gelatinous body, silver belly in front, pink iris, and iridescent pectoral fins and gill-covers, with speckled bands along the dorsal fins and tail, it is a very elegant little fish. Beauty of form, beauty of colour, beauty of arrangement and adaptation, with the added charm of sprightly vivacity, are all expended freely upon this diminutive little creature, scarcely two inches in length. Half-a-dozen of the beauties are now playing

merrily among the fronds of purple laver and green ulva Sept. 11.
within the bounds of a common tumbler upon our table, as if enjoying life as thoroughly as in their ocean world; although they still have their instinctive fear of a passing shadow, which sends them flashing amid the seaweed for shelter. The "coming event" to them may mean a visit of the spoiler.

Although the freshwater stickleback has hitherto escaped us in Benderloch, the fifteen-spined marine variety is as frequent here as elsewhere, although we have not yet succeeded in domesticating it.

We had actually one fair day this week, and we took advantage thereof to hunt the royal fern in his woodland haunts, as both in Lochnell and Barcaldine it may occasionally be found. Here is a dancing, sparkling stream, on whose banks a favoured eye may see the king holding regal sway over his varied congeners below. Let us ramble up its densely-clad banks and seek his gracious majesty. Over and back, again and again, we are forced by the thick verdure, the natural birch and alder, the tangled bracken, and the sloppy-footed iris. Here are flags enough and to spare of the latter, and roots enough surely to banish "the hell o' a' diseases" from half mankind, if there is any truth in print?

Through amid the foliage we catch a glimpse that sends us scrambling over the algæ-clad stones of the burn, only to find the off-shoot of a gracious mountain-ash; and now again some well-grown vetch deceives the eye for a moment amid the richer growths. Under the wild-rasp bushes, whose fruit is ripe, and the wait-a-bit blackboids, whose berries are only now blackening, and through the queen of the meadows, still throwing her sweets upon the careless breeze, we pass. The reddening

rowans are overhead, with the duller haws on the white thorn, and the blueing sloes on the black thorn, and the hectic hazel nuts scooging amid their scanty leaves, where they coquet with the *passée*, but still sweet, honeysuckle. Splatter! scatter! up goes a wild duck and circles anxiously around overhead—once, twice; so we know she has friends behind her. Down go mosses and fungi, as ancient feet that should be wiser, and young flappers that should have been sharper, go splashing together across the moor and the mire. Our hand is upon the gurgling youngster, when—— Well, we haven't got it, and where it is we cannot tell. Whether under the root of a tree, or between the stones of a dry dyke, or into the mud, with nothing but its beak out to breathe by, we really could not discover; and although well acquainted with the ways of flappers, and their marvellous skill in eluding the hand and the eye of the most dexterous, we pick up our rashly scattered treasures with humbled pride.

And the royal fern, too, has escaped us to-day. Whether he has gone to Ems, like other royalty, or has sought some quiet solitude, we cannot to-day "interview" his aristocratic and retiring majesty.

The Sphagnum mosses grow luxuriantly along the damp hill-sides, often being upwards of a foot long, and are here utilised by being made up into brooms for the dryer and cleaner rooms, heather being retained for the coarser and damper work.

Sept. 18. On the 11th we mentioned having been unable to find, or hear of, any common stickle-backs in the streams or ponds; but in our continued search, while sweeping with our net a sea-pool left behind by the tide, near a fresh-

water streamlet, we captured a number of the familiar forms, known to science under the unfamiliar name of *Gasterosteus spinulosus*. These were all well armed, with their terrible pectoral spines marked with patches of crimson. Sept. 18.

It is rather strange to observe the peculiar difference between these fishes and the gobies. The action of the sticklebacks is quick but jerky, each rapid dash followed by a halt, as if their curiosity overcame their fear. The gobies, on the other hand, while not so restless usually, are off like a flash to a considerable distance when disturbed, there to squat on the sea bottom, whose colour they so closely resemble. Although much of a size, the breathing of the two little creatures is very different, the action of the gills of the sticklebacks being to that of the gobies as three to two, so that the more really active fish is less nervously restless.

On the other hand, the timidity of the goby is excessive. A number we had in a glass tumbler, for better examination, were so startled every time our shadow fell thereon, that half of them leaped out of the water on to the table each time we passed. Desirous of saving them pain, or unnecessary death, we placed over them for a few minutes a plate of glass to prevent their exit. Against this, although more than half-an-inch above the water, they kept knocking their heads, the steady "ting, ting," apprising us of the action. For some time we had been satisfied that they required more air than they could procure in the water and from the plants, so we fully intended removing the glass when the necessity passed; but, neglecting this for some hours, on our next inspection the few in that tumbler were quite dead.

These fishes are continually being left in great numbers

Sept. 18. in confined quarters by the retiring tide, and are thus enabled, by rising to the surface perpetually, and gulping mouthfuls of air, to supply themselves with what is as essential to their existence, as it is to our own. In one small pool we recently found upwards of 20 speckled gobies, half-a-dozen dabs, and a good-sized eel. Yet, although the dabs can exist in a little water and a deal of mud, they do not manage to live in confinement like their pool companions. No doubt mud is advisable, and perhaps a change from salt to fresh water and back again is valuable.

The margin of the seaware is now frequented by myriads of young fish a few inches in length, and the seabottom is not so well tenanted by embryos as during the summer. Loch Creran, being quiet and confined, seems to be well worthy the attention of marine embryologists, as it is a kind of "nest," where many species deposit their eggs, the matured tenants of which rapidly make their way to the open sea so soon as they are developed and relieved of the protecting coating. Many *species*, however, are even yet throwing their young, as *individuals* have done every month since spring.

A species of sponge is very numerous this season, and we yesterday procured a large oyster that was apparently hermetically sealed, by such a species coating it. The roots of the tangle were grasping it likewise in their unsympathetic grip, and how the creature was enabled to obtain nourishment could scarcely be comprehended. We could not see that it could get its jaws open to the smallest extent.

In the narrows, where the currents run the strongest—and to an ordinary mind no attachment for the spores could possibly be found—there the true tangle (*laminaria*

digitata) spreads its great glossy fronds in the greatest beauty and luxuriance. Under its protection the large horse-mussel (*modiola*) lies in beds, although there is no need for concealment—its size and coarseness being sufficient protection. On one of the fronds, see! there is a small specimen of the scallop, with an encircling fringe of ciliæ! These disappear on our approach, and seldom can we examine this shell-fish closely in its natural living active state. There, close by, is a flower garden—quite a large bed of sea-anemones on one great stone, some with giant foot-stalks, too, half a foot long, as if stretching their necks as far as possible, while they spread their tentacles all about. A touch to one from our long stave and it has withdrawn to quite moderate dimensions, and curled in upon itself. This coast, as elsewhere, is alive with red-coloured anemones, but a few white, on first coming from the depths, are to be found, these turning a pale lilac soon after capture. We to-day procured a fine specimen of *Crassicornis*, or thick-horned, its tentacles being much thicker that the smooth anemone. Many species are represented on our coast, and their colours are most varied; but colour in the anemone is not at all a specific character, while in many species of fishes colour, as a character, is only a delusion and a snare, depending greatly on the ground they happen to be living upon.

Sept. 25. On Monday night and Tuesday morning we had our share of the severe gale which has been so general, and now we have snow on the hills to-day at the head of the loch. Without a summer, here is the winter upon us, and yet our corn is waving yellow and falling to the sickle all around.

Sept. 25. It is scarcely credible that after such an exceptionally wet and cold season our grain should be ripe and our harvest really earlier than in most places further South, unless the little sun we had has been reflected with double force from the sea and the hillsides among the intervening grain.

One or two mornings we have had a sharp frost, and our foliage is beginning to show those beautiful tints that make Scotland so charming in the autumn. Before us is a leaf plucked from the rhododendron, glorious in many shades of crimson and orange, picked out with black. Even two months ago, we drew from the wild mountain ash a gay bouquet of leaves—almost as bright as their lovely berries,—caused by a slight frost after the dew had wet the leaves, and ere the sun had dissipated it.

On walking yesterday through a field, but lately white with the leaves of the silver-weed shining in every glint of sunlight, we found them now every tint of red and yellow on the silvery side, the face of the leaves being mostly of a rich blue purple. So "our artist" is out amid the fields of the North, scattering the riches of his palette with no niggard hand, knowing his brush must soon be laid aside.

We drew a small creeper along the sea-bottom, at a depth of several fathoms, and dragged thence a bundle of tangle leaves (*laminaria saccharina*), of great length and luxuriance of growth, as they had been growing in the rush of the tideway. Most of the ground about and around them was a clean sandy bottom, but upon this great bunch of sea-leaves, anchored to a bundle of serpulæ tubes (*contortuplicata*), had congregated quite a large colony. At least 30 scallop shell-fish, with their

brilliant eyes and fringe of active ciliae—sweet to eat as Sept. 25.
the most delicate oyster—clung amid the fronds, and stuck firmly thereto. This is a curious habit in the most active of the bivalves, as, when removed and all placed together in a small dish of sea-water, they rushed about and snapped and chattered like a lot of school girls turned into a playground. These shell-fish ought usually to be scolloped, or more properly "scalloped," unless you are exceptionally courageous, when they are very tender uncooked. But, as one lady truly remarked, she could not eat such a beautiful creature raw, nor swallow such wonderful eyes after looking into them. Their shells were covered very generally with a spongy growth. Many of their young likewise found shelter amid the giant fronds; delicate little mimics they are. Many brittle stars of great interest and activity, but so very difficult to preserve entire, and a small goby (*attenuatus*), too faithful to their shelter, came into the boat. Bound with lengthened tough gelatine threads was an egg of the rough hound but lately laid, come to replace one nearly hatched, that was swept away out of its abiding place on the shore during the severe gale on Monday. Of course there was a dog-whelk; where are not these borers to be found? Doubtless it was creeping up the fronds to fasten on the back of some of the shell-fish, and drill its way into their retaining muscle with its tough foot. Oysters, cockles, and scallops all fall a prey to these insatiable borers, whose patience at least we can admire in the execution of their labours. Ascidians and eggs in a gelatinous condition were still numerous, and not always in a stage to be recognised. Blobs of gelatine, so pure as to look like drops of glycerine, and others of varied shades and sizes, from the sepia-like egg four inches long,

of a delicate green, to the small purple grape that might contain an infant squid. These were a few of the inhabitants of this little oasis in the sandy desert of sea bottom.

Our sea-anemones are very fastidious. When spread out, with all their tentacles seeking food, they show a rich scalloped and lace-fringed edge to the circle, with a fine orange rosette in the centre, into which their food is drawn. In vain have we tempted them with whelks out of the shell. These have been scornfully expelled, and we have just had limpets in the shell flung back with contempt, the creature thereafter curling in upon itself like a sulky child. Usually we have found the common anemones by no means particular as to diet, with a preference for animal food; but these more delicately organised species require more careful catering for. "Cultivation" and more confined apartments may have rendered their appetite more dainty, and necessitated more microscopic and less coarse food.

Since our little gobies have been less crowded, they have entirely given up the habit of rising to the surface and gulping air, showing this was not a "habit," but an act of special necessity.

OCTOBER, 1879.

Oct. 2. We have frequently referred to a small, delicate species of *pecten*, under the name of *scallop-shell*, retaining the customary name of *clams* for the large species with one side flat, in place of both shells concave and equi-valve. This large *pecten* we have never procured alive in our dredge, although the shells come ashore in considerable

numbers, and we this week dug up from the marly bot- Oct. 2.
tom, at low water, some of 6in. diameter in either direction. To this large *pecten*, or scallop, the word "clam" is commonly applied in this country; but so unreliable are local names that at least three other distinct classes of shell-fish monopolise this name elsewhere. The huge clams we read of in tropical seas are the *Tridacna gigas*, or clam shells proper of naturalists; the great clam harvest of Vancouver's Island and district is of the "Otter" shell (*lutraria maxima*), and even the well-informed naturalist John Keast Lord writes of this as if it were the same shell-fish as composes the "Clam Chowder," so famous in the Eastern maritime States. Yet this latter is mainly the *Mya arenaria*, which is obtained in great abundance in the sandy reaches at low tides. A shell-fish of the same character, and of good size, one of the Myae is found in considerable quantities on our marly coast. There are two varieties, one with a shell 5 inches long by 3½ wide, the other 2½ inches by 1¾—M. Arenaria and Truncata. The syphon tubes, by which they reach out of their habitat in the mud and sand to the seawater above, are rather longer than the several shells. Thus, the five-inch shell will be buried at least six inches deep, and has at least that distance to reach. At low water, the inhabitant below can be discerned by the hole above its syphon, and may then be dug out; as, although the foot is rapidly withdrawn, the shell of the animal does not move. Even these large animals, when properly prepared, have by no means the coarse character that is commonly attributed to them. When slightly boiled, so as to open the shells, the tough epidermis covering the long foot is readily withdrawn, disclosing the white firm flesh; and

Oct. 2. if thrown thereafter into a stew-pan, with butter, milk, and condiments, the result is a dish at once palatable and nourishing. They belong to the same family as the "clams" of Vancouver Island, and we understand large quantities of another variety are gathered in Arran with which to feed pigs, as the horse mussel (*modiola*) is here occasionally. Why these various open-end shells should be called "clams" we cannot well understand. The *pecten* can snap its shell together properly, and the word is apparently from the word to pinch, still in use in Lancashire as "to clemm," to be hungry, "pinched," or starved. True, Mr. Lord describes a shoveller duck caught by a huge "clam" (*lutraria*), so that these seemingly close their shells altogether, as in some others of the family. Our shore resources of this character are too little appreciated on the spot, while our neighbours all around continue to import tinned specimens of a very much coarser variety.

When dredging during the week we brought up in one hoist of the dredge at least 2000 turritella or spiral shells from a muddy bottom, showing the very local character of the species, as we may dredge again and again without seeing one. Even so late as last month various shell-fish have been throwing spat, having done so since as early as May. This arrangement, by which the young are thrown off over a period of so many months, is doubtless a security against their destruction during a partially severe season; but this has been so continuously trying that they can have had little chance against it.

On Tuesday we procured four specimens of nudibranch molluscs, with their naked gills, or lungs, waving in an elegant circlet. These large, beautifully-coloured sea-snails greatly resemble the limpet in appearance, with

a rich fleshy curtain in place of the shell; through this the lungs advance, or recede on the least sign of injurious contact. They seem to flourish fairly well in circumscribed captivity.

While the delicately fringed dianthus sea anemone is equally tender and fastidious, the "crass," or bighorn, is seemingly most hardy and vigorous. One whose foot, usually its most delicate and sensitive part, was much injured in removing it, is now waving its tentacles of brilliant, barred, white and crimson, as if in its native waters; although but a small jelly dish scantily moistens its goodly dimensions.

A day or two since we counted in one flock, opposite our window, 75 oyster catchers. These roost on an ancient cairn by the water, and form a beautiful and interesting sight, as it is claimed by many to be the most beautiful of British birds. At first they were mingled with about 50 gulls of various species, but gradually singled out and swept around, each flock by themselves. Surely such a large body of this usually shy and wary bird is extremely rare.

We have this week enjoyed a dish of the Chantarelle mushroom, so readily distinguished by its rich golden yellow hue and tuckered up appearance,—as if its ears were cold,—with a pleasing apricot smell. They are not, however, so delicate or agreeable in flavour as our common mushroom, which has not favoured us with plenty this season yet.

Amid a multitude of serpulae tubes and other custo- Oct. 9.
mary products of the dredge, we brought up on Monday several sea worms (*annelids*), and one or two of them became mutilated in the after manipulation of our

Oct. 9. treasures. Going about dark into the room where they lay on the window bench, we happened to touch one of these mutilated annelids, and the result was a beautiful display of miniature fireworks. Flashes of forked lightning, with a blueish phosphorescent light, swept along not only the uninjured portion, but the scarcely visible continuous intestine, to a portion some distance away. Every time the creature was touched with the handle of a small paint-brush, this brilliant and intense action, apparently nervous, followed. Is it possible to imagine such low organisations as these marine worms, to be possessed of such keen physical feeling as thus to answer, by a nervous shiver, the slight attack upon their half-destroyed life-cases? Are we quite sure of facts when we assert that keen pain is only to the higher organisms, or is the wish the father to the faith, seeing so much uncounted injury is inflicted upon such beings? To say this light was phosphorescent means nothing, as it was the action, perhaps, or rather, doubtless, unconscious, of a sentient creature. We own to having caused a continuance of this brilliant scintillation, solacing ourselves with the belief that it was merely the material agony of a dying organism, without a vigorous nervous centre to take cognisance thereof?

Twice this week we have dragged from considerable depths hermit crabs, who, in place of having pushed their unprotected tails into the shells of some defunct mollusc, had chosen sponges. Into these their tails were beautifully fitted, and thence they peered, as if conscious of a special security, and astonished at finding their ingenuity, or cultured instinct, baffled. Not only were these homes light to carry, but they would be readily adaptable to the increase of the crustacean; while at the

same time holding out no inducement to the greedier Oct. 9.
fishes, who would devour alike shell and occupant, regardless whether the original mollusc-owner were at home, or merely a burglar of a soldier crab.

Every one who has had much to do with marine collections must have experienced the difficulty of obtaining entire the various species of long slender-rayed brittle stars, so readily do they mutilate themselves on capture. The ordinary mode is to have a bucket of fresh water on board, into which to plunge them at once. Yet, on more than one occasion, not only was self-mutilation of their limbs their first act on entering such water, but a spider-crab which had remained complete until such a sudden immersion at once divested itself of every single one of its lanky appendages. One or two of the brittle stars taken to-day in the dredge showed where they had lost limbs before, and a new stunted and ill-matched end was growing on to them. These had exactly the appearance of the new growths on the tail ends of lizards, animals which part with their appendages with equal facility to these brittle stars. We own to having frequently amused ourselves startling the innocent little green lizards, sunning themselves on the dykes in the sunny south, just to see the poor little creatures jerk off their wriggling tails as they sped away. These amputated limbs in the lizard, as on the brittle star, went twirling off, maintaining a separate activity for a considerable time. In certain frequented paths, however, the creatures were so often alarmed that very few had whole tails, these being replaced by the peculiar illiberal aftergrowth aforementioned.

We yesterday obtained a sun-star with nine rays. It was upwards of 7in. in diameter, and about as pulpy as

Oct. 9. the ordinary five-fingered star fishes, but the rays, as in the sun-stars, short in proportion to the disc. What made this specimen remarkable, besides its size, was the brilliant green of the disc, succeeded by yellow and light red at the outer circle, the rays pointed with bright violet, and banded with green and yellow. A very singular spectacle it presented, coming up, as it did, amid a lot of the long twirling limbs and small discs of the brittle stars of varied species. The smaller species, one of which with thirteen rays was taken a few days previously, are very elegant, but this bloated monster was more strange than beautiful.

We find the sea off the mouths of fresh water streams, where the ground is dirtier and muddier than elsewhere, to be fuller of all classes of starfish than cleaner and more open ground. It is wonderful into what a confined space a lot of these brittle stars will curl their lengthy limbs, half-a-dozen coiling themselves between the fibrous attachments of a piece of sea-ware, and scarcely attracting observation.

There has been recently much controversy respecting the instincts of birds, and whether there is a "sixth" sense, or unknown factor, in their marvellous power of occasionally flying straight to their goal. This week we have had a very dense fog, coming suddenly down upon us, to such an extent that one day we twice rowed to the opposite side of the loch from that on which our haven lay. It is consolatory to find that the rooks were equally at fault, as a body of these birds were obliged to roost upon a couple of trees at Connel, quite unable to find their way home to the rookeries at Ardchattan or Barcaldine. Where was their sixth sense under these circumstances? Was it equally at fault with sight or

hearing, or valueless on account of being wholly imaginary? At any rate, we are less crestfallen in consequence of their stupidity, and more inclined to discredit their extra power. Still, we may consider rooks as semi-domesticated, and consequently as having developed their reason at the cost of their instincts, like cultivated humanity!

We recently brought up in our dredge a fine specimen Oct. 16.
of the Aesop Prawn (*pandalus annulicornis*), followed by several others in various stages of growth. These beautiful crustaceans, with their blue markings, their purple bands, and general brilliant transparency, throw completely into the shade their more sober-coloured, yellow and pink, congeners. Showing one to an observant friend, he met my query as to whether it was a prawn by the natural reply—"But a prawn is red;" reminding one of the French savant's description of the lobster as "the Cardinal of the sea," neither having ever seen them excepting when boiled.

We were contemplatively sitting on a large stone by the water, which was still and clear as glass; a rare combination during this summer. Thus seated, and peering into the deep, we could distinctly observe the countless ciliæ of the small rock barnacles, waving uninterruptedly in the limpid water. The fanlike, restless, grasping movement, as they gathered their nutriment from the sea water, showed like a microscopic forest waving in the deep. Remembering Hugh Miller's remark, that our present zoological era will be marked, in the geological future, for its infinitely numerous and widespread layers of this minute creature's lime dwelling, we could not help thinking how little indeed the future geologist could

Oct. 16. appreciate the delicately beautiful organisation that waved thus gaily on the borders of the deep, hidden even to the eyes of contemporary humanity, close alongside and overhead. No wonder they spread so readily, we fancy, as we see the rapid movement and consider the secure habitation; but only some allied continued species will bring it, by analogy, before the minds of future Darwins.

While thus soliloquising, a jerky movement was observable on the top of the greyish stones, and first one and then another goby (*auratus*) came to view, keeping close to the surface of the stones, whose colour their own sober backs greatly resembled. But, see! there is a rapid movement of the tail, a bright glint of the blue-banded dorsal, so distinctive of this species, and, with a dart, Mr. Goby has nipped the ciliæ from one or more of the restless barnacles. Over and over again this movement was repeated by first one and then another of these little fish, showing that even the apparently secure habitation of the barnacle, and its minute size, could not save it from the enemy provided. This was the first time we had seen or heard of such a depredation, and accounted for the vast numbers of these little fishes along the coast, for they can thus secure a dinner from the barnacle-covered rocks and stones without exposing themselves to the many vigorous enemies awaiting them to seaward. We have been surprised that such a specific distinction as this blue-marked dorsal fin has not attracted the notice of naturalists, its beauty, its prominence, and singularity all pointing it out as the most striking characteristic of this little goby.

A resident observer recently remarked to us that he had never seen a siskin in Benderloch, while, strange to say, in the month of August one of these little birds was

playing in the hedge within a few yards of our window. Oct. 16. We are, as yet, very ignorant of the causes of the movements of birds. Until recently, a flock of gold-finches were regular visitants to the neighbourhood, and some of them nested yearly in the vicinity of the great rock at Ledaig. Now, none are to be seen about the district. The stonechat (*saxicola rubicola*) may be seen any day perched upon the top of a heather bough, and sending forth its notes on the moor, or glinting off from bush to bush as the traveller approaches. Although a migratory bird, it remains in Benderloch all winter, and some were found dead by Mr. Campbell last severe season. The wheatear, the friend and companion of the whinchat on the moor, and in "White's Selborne," is a very cheerful companion across the heath.

We never recollect seeing so many jays together as while walking through Loch Creran woods—three pair having been in sight at once. Does the number of this gay-plumaged but shy and comparatively rare bird account for the dearth of small birds to some extent? They are well-known to be most destructive to the eggs and young of the smaller birds.

A golden eagle was lately visiting us on the hillside, but fortunately escaped being made a curiosity. We, who have no interest in the game, can well spare this noble bird a few grouse in return for its graceful presence. Magpies, which were at one time numerous, have nearly disappeared. We have observed in a friend's farm-yard a number of tame—remarkably tame—ducks, with the plumage wholly those of the wild fowl. These were the offspring of reclaimed wild ducks that had entirely forgotten their former untamed condition. For ourselves, we never succeeded in taming the wild duck, more

especially once it had got the length of being a "flapper," so were the more surprised at the extreme fearlessness of man with which these birds approached and ate from the hand. They had been originally brought up at the head of Loch Etive by the keeper, who lives amid equally wild fowl and wild scenery. The redbreast has now began to sing on the corner of the housetop, so we may look upon winter as close bye.

Oct. 23. We formerly referred to the strange lack of anticipated instinct in the rooks, caught at a distance from their several rookeries, during the severe and continued fog some time ago. The instances of apparently inexplicable instinct are too numerous to be overlooked or explained away, and one of great interest occurred in Loch Creran. While a boat-load of intelligent sportsmen and keepers were rowing along the centre of the loch, they observed the track of an animal or bird in the water of such a character that some on board insisted that it was the course of a salmon, with its back fin above water, as often happens. The creature swam rapidly and in a straight course for the Appin shore, and when the boat reached it their astonishment was great to discover that the bold swimmer was a mole.

To test if its straight course were accidental, they took the wooden boat-scoop, and slipping it under the little animal, tossed it into the air. Although tumbling all of a heap into the water, with its head in a different direction, it at once turned direct for its original destination, and swam off with the utmost confidence and renewed speed. This experiment was repeated more than once, with similar results. The keepers have seen the roebuck take to the water and swim the loch, a distance of

upwards of a mile, in a slanting course, for a certain Oct. 22.
point, apparently to meet a friend on the further shore; returning thence in a few days after in a similar manner. By a run of a few miles around the head of the loch, these graceful active animals could have gained their desired goal with ease and celerity, but it was apparently a matter of indifference whether the way was by water or land, to these handsomest of our native mammalia. The difficulty of keeping a course, except by sight, is so almost impossible to humanity, that we must suppose these creatures were likewise guarded by this surest of our senses; although how a mole could take bearings for such a distant point, with its head so low in the water, is a puzzle. We are certainly ignorant of the capacity and possibility of intellectual display of some of the very lowest intelligences. We recollect being called out by a finely-cultured, scientific observer, to see the strange vagaries of a butterfly, encircling the spider-web-imprisoned companion of its leisure hours. For some time we could not understand the cause of its peculiar motions, intelligently ordered as they seemed to be. At length we discovered that it had seized the end of the fine web in its mouth and carefully and skilfully unwound it from the wings of the prisoner, keeping all the while at a respectful distance, and watching that, in its varied revolutions, its own wings should be kept well out of harm's way. We watched the manœuvre for some time, within a foot or two of the operator, until it had successfully freed its friend; when the two flew away, apparently delighted with the success of friendship and dexterity. It is extremely hard to believe in any "free" intelligence, other than "instinct" itself, in the actions of such lowly organised creatures; and yet our knowledge of the

wonderful skill, organisation, and guided energy of the ants, of various species, ought to prepare us to receive such manifestations of mind—pure and simple—with respectful attention.

Returning to this district, from a visit to the south and east, we asked ourselves wherefore our countrymen went to Torquay, and other nooks in the south coast of England, with such a climate as this close bye? Chilled and colded from the East Coast, as we advanced up through the Western Highlands we grew warmer and more comfortable, until on arrival under the shadow of the rock of Ledaig, and within the sheltering woods of Benderloch, the climate more resembled that of the north of France, without its exposure. Not a stook to be seen in the fields, while even in the vicinity of Edinburgh much was still uncut this week.

We observed that the larches in the East country were suffering from the same blight to which we called attention here in the early summer; as if lightly powdered with fine flower. As these trees were in an exposed and high situation, while those with us were sheltered, the cause of the prevalence of this insect plague must have been of a general climatic character, and by no means local, as we at first believed.

Oct. 30. A frosty day on the 28th was followed by a very mild day, the result being an exceedingly dull morning, with the mist hanging from the surrounding hills and drooping over Loch Creran. The day was deadly still, and it appeared as if another fog was about to descend upon us and shroud us in darkness. Gradually it trickled down in a half rain, and, although the sky remained concealed in a uniform grey, a peculiar light threw the sea bottom

into clear view, and enabled us from the boat to scan the Oct. 30.
tangle forests. Where the bottom of the sea is concealed by the great stretching fronds of the sugar fucus, *laminaria saccharina*, or those of *alaria*, their removal or uprooting is a comparatively simple matter; but where the strong, leathery, fingered fronds of the true tangle, *L. palmata*, or *digitata*, reign supreme in the strong current sweeping round some promontory, it defies ordinary treatment to remove it. It seems to rejoice in such a trying situation, its glossy fronds stretching out now this way, now that, in the changing tide, holding in the firm grasp of its root-like attachments strange masses of stones and shells. Under this foliage the largest and strongest specimens of sub-marine life are to be found. Great horse-mussels—set edge up—form living beds to which the tangle clings; while the largest, finest-shaped, and finest-tasted oysters lie there concealed, scarcely to be distinguished from the scattered stones. No doubt the constant rush of the current, outward and inward, will bring to the various marine animals the food they most love in the greatest plenty. But a darker shadow crosses the glossy fronds on to that open sandy space, and, reversing our iron graip, we drive the sharp handle five or six inches through the centre of a fine thornback skate, pinning it securely to the ground. Already we have portioned out its kippered wings to the most appreciative friends, as we endeavour to jerk it upwards into the boat; but a sudden forcible recoil of the bent wings disengages it, and it is once more free, sailing away apparently satisfied with itself, although a hole quite an inch in diameter is through its centre.

Here is, apparently, a great crimson rosette in two fathoms water, and placing our iron under it we bring it

Oct. 30. up into the boat. Three great specimens of solaster, or sun-star, each as large as a dinner-plate, have we dragged up thus, and all are different in colouring. Two are of the prevailing colour of rose-pink with yellow bands, and in one case tipped with green; the third is of a rich chocolate-brown all over. They seem uncertain as to their number of arms or rays; two have the round dozen and the third a baker's dozen; and great stupid, but really beautiful, objects they look as they lie prone among the gravel. Whatever can they live upon, and where can they find the necessary aliment to support such bulky corporations? The question is scarcely asked ere the wonder is explained, and the explanation is itself almost as much a matter of wonder. Their last meals, in two cases, have but recently been taken, and, sickening with disgust at their rude treatment as they lie on their backs in the bottom of the boat, slowly and most unwillingly they disgorge—what? Why, neither more nor less than a complete purple-spined sea-urchin, a little more than an inch in diameter, around which each has managed to compose its mobile carcase—not within its limbs merely, but completely inside the central orifice, until its ungentlemanly handling made it yield up its prey.

These small species of urchin are ubiquitous in the loch, and now at length we have met with one to whom they are "hail fellow well met," being otherwise, and to others, a great nuisance.

A kind of yellow sponge grows luxuriantly in the swift currents, and the tangle fronds are covered with minor seaweeds. There is apparently a pure white flower on that leathery frond! We endeavour to stay the boat in the current, and, after one or two spasmodic attempts, succeed in disengaging the glistening petal, and bringing

it on board. A piece of uninteresting gelatine it appears to us as we handle it; but, knowing how stupid the best of us appear when out of our element, we drop it into a can of sea-water. At once it unfolds itself, stretches out its transparent body, and is revealed to us as a very beautiful specimen of a nudibranch, or naked-gilled mollusc. Those we have previously procured here were large, strongly-coloured, and strongly-made gasteropods—unmistakeable large molluscs, with an elegant rosette forming their lungs; but the pale, delicate beauty before us could scarcely be conceived to be a relative, with its rows of transparent, white, parsley branchlets all along its fragile body. But it has, nevertheless, the same character and habits, and when tired creeping up the dish it was placed in, threw itself on its back like its congenors, and started round the bowl. These molluscs thus frequently commit themselves to the currents of the deep and to providence, and wander over the ocean.

NOVEMBER, 1879.

Loch Creran is beginning to be lively with winter water-fowl, whose cries resound through the early night. In descending the loch we meet again and again the familiar forms of the loons, or larger divers, as they cut through the water with their strong, graceful movement, so entirely adapted for their aquatic existence. Broad-chested—for their breast-bones are shaped like the expanding bows of a cargo boat—they sit well above the water, and occasionally deceive us by appearing like the large head of the seal, that never fails to follow our boat with inquisitive face, as we pass its customary fishing- Nov. 6.

Nov. 6. ground. These birds are Great Northern Divers (*colymbus glacialis*), and fine powerful swimmers they are, warily diving under as we approach, only to reach the surface again at least half a mile away.

But this is surely not the diver this time, right astern. No, indeed, it is really our friend the seal, close to the boat, with its great mild face and inquiring eyes, scanning us most carefully ere it goes under. But we are all familiar to it, so it does not hasten away, for we never pass without being well examined ere it goes back to that large rock out from the shore where it lies in wait for its prey, or basks in what sun there may be at low water, for hours at a time. It is a capital situation, as the coast is all clear around it for miles, and it cannot be approached unobserved; as that lad with the rifled carbine, and the customary murderous instincts of the young Briton, knows very well. I should like to ask him how many pairs of trousers he has ruined in his futile crawls along that beach. Only the other day, when the tide was very low, and the tangle fronds were showing between the isolated rock and the shore, Mr. Seal was plunging and splashing among them after a large fish, probably a salmon, that had been driven thither in its vain efforts to escape. He knew exactly how near to allow the boat to come, and had chosen his coign of vantage most judiciously. To-day he merely satisfies his almost human curiosity, and returns to his own affairs in *his* bay.

Various groups of scaup ducks leave the water and scour away at our approach, and a small guillemot likewise gives us a wide berth, while a little razorbill dips and disappears, after showing it has reached our loch for the winter. As we approach the especial haunt of the black guillemot (*uria grylle*), where they are ever swimming in

the rush of the tideway, confined to a most limited area, we find several active little specimens, as we never fail to do. Just as we reach the commencement of their ground, look at that low black rock! There are at least half-a-dozen cormorants, sitting solemnly a little over the edge of the wave. See that one stretch its wings straight out from its body, and stand so, with only an occasional flap, or slight quiver, for quite some minutes, apparently drying its pinions in the breeze. Now they plunge, without leaving a ripple, into the water, and swim gracefully around, with curving neck and intelligent eye; so different from the appearance of those now hurrying through the air, to join them, with ridiculous outstretched neck, and strong and heavy flight. They are clearly more at home on the water than in the air. Evidently fish are drawing into our loch for the winter, and these indefatigable fishers are following them. Nov. 6.

One, two, three, four, one after another, up they bob, give a shiver and a flutter, and seems to stand on the top of the water on tiptoes, as they jerk the water from their jackets! You don't see them! Well! look carefully between you and the rocks, almost among the bordering seaware. Long ere we come nigh they have dipped and gone, who knows whither? Yes, once more we catch a peep of the little heads stuck up among the seaweed, where only sharp eyes can see them before they dip and away. For these are "dippers," dabchicks, or little grebes, as much at home in the water as the seal itself, and quite as ridiculous on shore. Very difficult they are to approach, and still more difficult to see, as they then remain, like ducks among the weeds, with nothing but their beaks out of water. But if you remain still, and do not frighten the little creatures, they are a

very pleasant sight, as they dance and skip about on the water as if it were almost solid ground. The cold weather which has set in lately has caused all birds to be more fearless of man's presence; and a few days since we watched every movement of a curlew in the stream opposite our door. Through the glass, we could almost see every mouthful it procured, with its long curved bill, from the bottom of the water; and we saw it actually tremble with excitement and delight as it hurried to dry land with a large prey, taking many mouthfuls and much tearing to stow away. Unhappily we could not make out what it had, but it evidently required to keep it well away from the water, for fear of losing the precious morsel.

Nov. 13. This is a beautiful winter's day. The frost still lies on the grass, and the thin coating of ice, even this bright, calm afternoon, lies over every rock-pool still. Although not warm, the sun's rays seem to search and stir up the bottom of the waters all along the coast, revealing everything, even to the gaping, vacant-minded oysters as they cling to the shelving rocks where they turn and dip into the further deep. Deadly still is the wide expanse of water, and the great stretch of marl, dotted here and there with stones and seaweed, lies revealed in the low tide, bounded in the distance by the now dry island that is rarely within reach of the pedestrian. Let us wander out and see what is to be found exposed to our vulgar gaze this rare and glorious day, when Boreas has ceased to blow and Pluvius is still. Over the boots we sink in the blue clay, half-formed of the cast-off raiment of the deceased molluscs of many species that have joined the majority in the precincts of the bay. Wherever a large

stone has remained stationary on the soft expanse, the Nov. 13.
seaware has covered it with a secure covering, and lying around these stones, in multitudes, are the empty homes of the various species of *cardium*, or heart-shaped shells, of which the homely cockle is the commonest example. In a very short time these will be ground to pieces, in the daily swirl around the rough barnacle-covered stones, and a fresh relay will have come to take their place. Of these shells, as of all other species, it may be said that the delicacy of the shell denotes the delicacy of the contents; that smooth, refined, flattish shell containing a much more dainty mouthful than the common, and yet sweet-tasted, cockle. This is to be expected, seeing the shell of a mollusc represents the skeleton of a mammal, and we know full well that the bones of a thoroughbred are closer in the texture, and of a more refined organisation, than the loose-celled framework of a draught horse.

But shut your ears to the ring of the smith's hammer, as it sounds across the sands, and listen to the varied sounds as you advance across the marly expanse. Never mind that screeching flock of curlews as they scud over the soft ground and leave the measure for a pair of boots all along ere they take to discordant flight, nor the half whistle of the eager, restless oyster-catchers as they speed away, nor the half chirp, half whistle of the Ring Plovers skimming along the water's edge. Now, what do you hear all about you? A peculiar sound almost like the drawing of a cork, with the sigh of the butler added, because the wine is not for himself. It is really the withdrawal of the numerous syphons of the *myae* into the mud all about, as the sound or the movement of the advancing foot—or even the shadow thrown across the aperture—causes them to apprehend an enemy. Yes!

Nov. 13. again and again we tested the fact that the sudden movement of our body between their syphon end and the sun caused instant fear and retreat! Might it not be the body of a powerful whaup, or still stronger billed oyster-catcher, and so the intelligence is conveyed instantaneously down the long syphon, and orders returned to retire at once; or is it the mere physical shrinking from the sudden sense of chill?

Perhaps you are poking among the seaware left bare by the tide, and turning over the stones. If so, you wont be long ere a spatter, splutter, flap-flap tells of the presence of a nervous, excitable butter fish or gunnell fish (*gunnellus vulgaris*), with the row of big spots on its back fin and the dorsal line of little spines. Compressed laterally, but otherwise very like an elegant eel, you cannot search far before you come upon them; and, if you are after other objects, their boisterous presence is all the sooner made known, as if they were most important objects of pursuit, and their valued lives a prize. Accompanying them in very many cases is the father lasher (*cottus scorpius*), with its vast show of head well armed with spines, and its small evanishing body. A more dissimilar couple could scarcely be found, to keep watch and ward together beneath the olive-covered fuci, we think, as we lay them alongside between the "ribbed-sea-sand" and watch their evolutions.

See there! two dog whelks of very moderate dimensions still clinging to the spawn, which they have just jointly affixed to that stone, under the overhanging seaware! Scarcely to be expected, surely, in November, with the keen frost abroad, when all orderly mollusc mothers should be ashamed of such gay springtide doings. Will

such late thrown spawn have any chance of existence amid the cold and storms of winter?

Twice we have turned over that piece of stick coated with fine mud; surely it moved! As we catch it in our fingers it makes as much row as a butter fish itself, flapping violently with its lobster-like tail—a most unquestionable prawn of decent dimensions; so, as prawns are getting yearly scarcer we return him to the mud, with directions to multiply and replenish the already lively bay.

The discarded clothing of the trees now covers the wintry-looking loch, in vast stretches of varied hue, causing our boat lately some pressure to pass through. The stumpy tail of the wren, too, is fluttering among our winter sticks in the outhouse, and the sparrows are twisting through the leafless hedge within a step of the door. No wonder the lazy ones mutter "We wish we had our potatoes lifted," as they flap their pinched hands.

Nov. 20. It has often been remarked that many animals seem either to show error and perversion of instinct or sufficient independent judgment to take advantage of suitable circumstances in the midst of their surroundings. At Island Ferry, on Loch Etive, exactly at mid-day, the day being dull and overcast, and stillness of the Scottish Sunday reigning under the scantily furnished trees, we observed what appeared to be a large leaf circling towards the ground. Its peculiar gyrations, in the absence of a breeze, caused a closer examination, when to our surprise we found a bat hard at work among the gnats under the branches, as if it were nightfall in place of mid-day. So difficult is it for us to judge of the actions of animals different from ourselves, that it troubled us to

Nov. 20. decide whether it had found the dull light suited to its sensitive sight, and so set about securing a proper meal while the sun did *not* shine ; or whether it were really so stupid as to suppose, in the absence of the sunlight, that its evening hour had come. It would have been interesting to have noted, if possible, how long it would have pursued its avocation, and whether it would have again turned out in the evening. But doubtless a sufficient meal would have satisfied it for the day, and decided its after conduct.

Now that the foliage has cleared away, squirrels are omnipresent in our woods, and we lately watched four on one tree making terrible havoc among the beech-nuts. The quantity destroyed by the extravagant little creatures in a remarkably short time, as we surveyed them, gave one some idea of their destructive powers amid the autumn woods ; while, now that the poorly-filled beech-nuts are strewing the leaf covered sward, they have taken actually to the little cones of the fir trees. Let us pick up this one and taste the minute seeds, under the scales of the cones, that have been furnishing that beautiful creature with work to obtain a luncheon. With difficulty we find the small beech-nutty-flavoured seed, and scarcely feel it under our teeth, wondering how many cones the active, careless squirrel will require to pick to pieces for a meal. There it has disappeared, skipping from branch to branch, and immediately eluding our eye. Following, we at length perceive two bright eyes watching us from a small, fresh, mossy perch at the summit of a young spruce tree. Does the squirrel really build such a little country-seat for itself independently of any nest? We never saw such before, but there it was, fresh and green, and Mr. Squirrel occupying his position therein with quaint serio-

comic satisfaction. They are in beautiful "plumage" just now—their tails well feathered for the winter; and they are apparently busy filling their little stomachs ere the winter's snow is upon them. Perhaps the little station on the slim tree-top was really a store, but we could not risk our valuable existence on the fragile summit to ascertain. Nov. 20.

While travelling recently by the Highland Railway we observed a striking instance of the influence of hills upon the local rainfall. For several miles the train passed along a level at the foot of the hills, on the hither side of a river, with the open country on the one hand. Along the hill slopes a smart rain was falling steadily, and even beating at times against the windows of the train; but, for a distance of nearly five miles, the further side of the train was a bright smiling landscape, without a drop of rain reaching it. The river so sharply marked the boundary of the rainfall that, so long as the rail followed the stream, the train we were in seemed actually to cut the landscape into two halves, one all bright and blooming, the other all drizzle and gloom. While on this journey we observed on the naked bough of a beech tree what we fancied was the peculiar dark-grey back of a guinea fowl, a bird fond of perching well off the ground. On closer inspection, however, the object proved to be a fine specimen of a wasp's nest, and as the occupants, we considered, were not likely to be there, or active at this time of the year, we determined to see and secure the deserted habitation.

Something of the shape and size of a prize turnip, it was skilfully affixed to the branch, whose minuter twigs passed through it for greater security. The grey paper—as we may well call the article of which it had been fash-

ioned—was light, open, and porous. So light, indeed, was the whole wonderful product of their skill and industry, that it appeared incredible to us when we found we had to cut through ten folds of the paper envelope ere we reached the securely-enclosed central cells. No doubt these many very light walls, with the intervening non-conducting air, will keep the nest warm and dry, as well as if of thick waterproof material, and perhaps a great deal better,—while heavy material in such a position would have been impossible.

We are accustomed to speak and think of the work of the hive-bee as a marvel of skill, but here is its robber adversary, the thin-wasted, reiving Circassian gentleman, not only supplying itself with well-made cells for its young, but enclosing the whole in a light, elegant, dexterously-made structure, secure from ordinary hostile hands and eyes. These hanging nests of the wasp are ever a source of pleased surprise to us, and we view them and gather them to-day with the same delight as when in our boyhood we wondered and destroyed. When will our Highland cottars learn to construct as secure, comfortable, and charming residences for themselves. If the sluggard should go to the ant, surely the handless cultivator should hasten to the wasp and learn constructive skill.

Nov. 27. On one of the little black islets of Loch Linnhe, whose fuci-covered heads and tangle-fringed borders just emerge from the waves at high water, we found a beautiful rock-pool. The bottom was covered with the *debris* of varied shells, broken to pieces but not comminuted, and thus forming a bright shining porous sand. From this pool we dragged first one and then another fine goby (*gobius*

bipunctatus), taking them home along with a quantity of the sand they affected. Nov. 27.

These elegant specimens of this small class of fishes are finely marked, about two and a half inches in length, with large scales and transverse bands along the back, which gives them a snake-like appearance. Very shy are they, and not at all obstreperous in the large hand basin in which they are placed for convenience of examination, where they bury themselves among the broken shells, and do not stir even when the water is lifted in a cup and thrown in a stream into the basin to aerate it. Their specific name is derived from two spots —one on the margin of the tail, the other behind the pectoral fin. Except from the size they are scarcely distinguishable from the *G. biocellatus*, of Couch, another two-spot goby. They are handsome little fish, and when they do move exhibit the customary celerity of the class.

From the same rock we plucked a large frond of the red seaware (*iridæa edulis*), so called from its being used as food in some parts of England. We have never pulled it in our own Loch Creran, which appears to be too fresh for this seaweed.

While walking quietly last Sunday on the hill behind our dwelling the violent struggles of an animal in a small depression of the ground attracted our attention. This soon proved to be a vigorous young sheep literally caught in a thicket, and so completely, too, that its vigorous efforts at liberation only succeeded in at length making further effort impossible. A mere handful of bramble cords had done the whole thing, and it at first seemed ridiculous that such a strong young animal should have been imprisoned in such a simple manner. Not until we had endeavoured to relieve it did we properly

Nov. 27. appreciate how the length and strength of its wool, like Samson's hair, should so nearly prove its ruin. The embrace of the Delilah brambles were round and round the poor animal, and it could never have relieved itself. Only by the use of our walking stick, inserted as a lever, could we tear them from it; and even then the process was long, and, in spite of our care, it scampered off to its distant companions with several long creepers dragging behind it.

Our blackfaces, as a rule, are intelligent enough, except when panic-stricken, and it was probably under our sudden appearance that it so foolishly risked its freedom of action.

In marked contrast with the folly of this sheep is the intelligent activity of our two species of enemies, who have, in combination, cleared our garden of everything of use to us and them. See those two comfortable-looking porkers passing along the road and casting a jocular side-look at our fastened gate! We feel as if they were rubbing their stomachs with satisfaction, and winking at us knowingly with their cunning little eyes, at memory of the beautiful patch of early potatoes that went, most unwillingly on our part, to build up their now solid proportions.

We met them one day on the road, evidently bound for our gate; but, seeing us, they turned aside in the most unconcerned manner, as if life and potatoes were equally valueless. No sooner had we passed a little way than, with tails erect and twirling, they sped away at full speed for their happy hunting ground. Pigs stupid, indeed! and an Irish cottar could not have filled a basket with potatoes after them, nor dug up a row as rapidly and well.

Then, just see that cow! Where, and oh where, are my lovely cabbages gone? and vegetables so scarce too. She and her companion know full well; and she likewise knows there is a back green, with a nice picking on it yet. First she gets her horn under the catch, and tries to lift it over the gate, but it is securely bound with cords, and she fails there. Then she goes to the other side, and, after careful examination, endeavours to lift the gate off its hinges. There, also, she is baffled, by each hinge being tied and knotted to the gate, or else she would have opened and entered, "as oft she has done before, oh!" The other gate had a simple iron catch on the inside, and, before we had it barricaded up, each of those cows could go up to it, lift the catch with its horn between the spars of the gate, and walk straight in! It was long ere we could bring ourselves to believe in their intelligent dexterity, but we find there is one at Barcaldine that can open any gate on the grounds, and some of these are very ingeniously closed. It can likewise open the "snec" of a door by pressing it down with its lower lip. We seldom give cows credit for so much observation and intelligence; but we are obliged to credit those outside with so much, and debit them with our cabbages. Nov. 27.

We will shortly begin, in our self-conceit, to imagine that the air of Benderloch promotes mental activity, as a horse in the neighbourhood is popularly declared to have committed suicide when suffering greatly from a painful disorder. It went down to the sea shore, and determinedly held its head under water, as the only protest it could enter against the cruelty of circumstances and the hopelessness of existence. This is by no means an isolated instance of suicide by animals.

DECEMBER, 1879.

Dec. 1. A fine winter's day—the hills round Loch Creran white with snow, and the wind blowing "snell" from the northward. With abundant ammunition and a stout boat, we start down the loch, and steadily draw away towards Shian Ferry. Birds are scarce, as a good ripple arises under the wind that speeds us downward and outward to Loch Linnhe. Here a cormorant, there a goosander, stand on tiptoe and flap or skim away, till at length we are slipping past the curlews and the oyster-catchers, equally wary and active, that make the sea-beach lively in the Sound of Eriska.

A stately, solemn figure appears in a quiet little bay; and the helm is "ported," so as to get the rocky headland between us and the watchful heron that so keenly eyes our approaching craft. Again, and yet again, as we get out of view around the corner of the rock, a sharp eye and massive bill peers over the edge, and only as we continue to draw inwards is the creature satisfied, and discontinues its attempts to keep the boat in sight. Slowly we change our course, that we may curve round towards it, and bring it once more in sight at a closer range. Rounding the point it at first is indistinguishable, but at length, with a gurgling splatteration, the huge limbs sticking out behind, and the great head at the end of the cordage neck thrown out before, the heron endeavours to find play for its vast stretch of wings. The destructive instinct is strong on board, and a long shot brings it down with a broken wing. A few helpless, idiotic tumbles are given by the poor bird as it endeavours once more to take wing, till, finding the futility of

further efforts in that direction, it slowly sets off on its Dec. 1.
long legs up the gravelly beach. Ever and anon it looks behind, as if to see whether such marine monsters are really about to follow it ashore; but it is soon deprived of hope, as a stout lad, and a fearless terrier that has tackled an otter single-handed, rush after it up the beach. Topsy is first, and as she rushes in with the courage of her race a few bunches of hair are torn out by the great strong beak that might readily kill her outright by a well-directed blow. But the poor bird is soon worried and secured, with its beautiful yellow iris staring brightly and sadly on its slayers, and its elegant lavender robe and white-speckled, frilled-looking bosom stained with crimson from the pellets in its breast. What a graceful creature it looks as it lies stretched along the thwarts, and we feel like guilty things as we gaze upon it.

See! there is the bobbing head of a grebe among the seaware, and, as we watch it with our shot gun, the gentle eyes of a seal beam for a moment from the protruded head and disappear for the time. Down towards the Eilean Dubh, the Black Isles, we slowly sail, cormorants and sawbills predominating on the waters; and, as we pass the iron beacon to the north of the island, on a small rock, a dozen cormorants together are leaping from it into the sea. We land on the small gravelly beach to the north, and leap ashore as if it were Columbus on the shores of the Indies. It looks so wild, and quaint, and unfrequented, that it must surely be fresh lifted from the watery domain! Scarcely do we proceed a few hundred yards, in search of waterfowl or seals, ere we suddenly encounter half a dozen rough-coated but gentle-eyed oxen, whose winter pasturage the island is. The goosanders, however, are extra wary to-day, and they go scouring

Dec. 1. away in flocks, without leaving a living thing within shot. There, on the face of the cliffs, is a huge bundle of sticks that many an old woman would be glad of for the winter. What can it be? Oh! that is a raven's nest, says Donald, and many a year have they built there. Further down, behind that rocky breastwork, we see the edge of another such peeping, and—Whew! There it goes with a dash and a sweep off seaward, the bold blue hawk, the famous Peregrine, whose nest, too, "hangs on the crest" of the little Black Isle. We tranquilly survey a group of hartstongue ferns, and prepare for a supply of young roots, to be transferred to more accessible quarters. But our companion is otherwise intent, and the fearless terrier is sent into the rocky fastnesses of the otter, to see lest peradventure he may be "at home." Again and again the tousy dog returns, glum, from the various haunts that the otter loves amid the crumbling cliffs. She is gadding about and he is purveying, or both have sought for winter-quarters, and followed the fish to the calmer waters. "Gone and left no address" is the last we learn, as a well known haunt is reached, only to find that the door-step has not been washed, nor the door-handle burnished, and the couple have clearly left their seaside home for the season. So, with a shot at a too inquisitive seal, which unhappily escapes wounded, we turn back bewailing its and our mischance, for on principle we do not shoot except to slay. But the wind blows keen, the whisky flask is empty, and the tide will be turned against us, like the wind, if we linger longer on the rocky, picturesque, heath-clad isle, that has stuck half-way from Eriska to Lismore, and seems stooping to draw up its habiliments in the deepening tide-way. The freshening breeze blows keener, and the waves are higher; while,

strange to say, the birds on the water are far warier than Dec. 1.
when a calm broods upon the waters. What is the reason for this? we naturally ask, when the ripple will help to hide them, and the keen wits of the seafowl might tell them they were safer and less conspicuous in the breeze. "It looks like a change," remarks our shrewd and experienced friend, "and the birds are always more nervous, irritable, excitable, and restless at such a time; the cause is no doubt atmospheric." We, too, are influenced by the atmosphere in the shape of the sharp breeze, and the laziest is most amiable in his ready willingness to row. So up by the extensive sands of Ardtinny (the fire-point or beacon-head), now covered by the tide, we row strongly, while the tempting wings of many a shore and sea bird sweep away at our approach. Bother the skulking grey crows, as they suddenly rise and go well overhead; never heed the Wigeon ducks, as they paddle rapidly in among the distant shallows; let us get home ere the tide turns. As we ship our oars, and, seizing our armoury, leap ashore, the rippling waves are kissing the fringe of wreck, telling that tide is at the full, and the boat has found its bed for the night, without the usual struggle up the gravel bank.

We have escaped the late snowfall, but King Frost Dec. 4.
still keeps us hard bound in his iron grasp, so that the shivery woods are glum and silent, and the usually resounding shore is painfully still, but for the crackling of the ice-bound stream, as its covering falls before the retiring tide, or is rent asunder in its flow.

Masses of berries clothe the trees, but the sudden onslaught of winter has driven the birds home already. The usually timid blackbirds, scarcely to be seen all the

Dec. 4. ummer—we did not see a nest this year—are skulking anxiously all about under the bare poles of the hazel trees. We were startled at our desk at midday by a strange sound at the door, and, on carefully proceeding thither, found a blackbird hard at work on the already well-picked breast bone of a fowl. Another disturbance proved to be our friend the redbreast inside the window pane. But he is already quite familiar. We were breaking the ground with the spade after the frost had begun, but ere he had such a strong hold as he has to-day. Robin would come almost on the edge of the spade, so that we were afraid to injure him, and looked carefully for the cause of his conduct. A bright, wriggling, red worm soon showed among the soft under-earth, and when we tossed this to him a foot off, he very soon made away with it. His familiarity was judicious and calculating. Just under the surface of the green we are breaking do we not throw open numbers of those yellow caterpillars with the "red red nose," buried just clear of an ordinary frost, and does not the red breast flutter when it sees them?

Our creepers in this northern exposure are curling up under the frost, while under the rock of Ledaig, with its warm associations and southern exposure, they are fair and flourishing. We felt it quite like a summer day as we sat two days ago with the poet in his rocky retreat, with hothouse plants flowering around us in the open air, such as agapanthus, citisis, and veronica, and with the eucalyptus, or blue gum, close beside, that had weathered even the last trying winter. Still the gum is but a dwarf, and as many months under glass would give as much growth as the years it has been here. They failed to tide over the last winter in a warm corner near Glasgow, so

the poet can point to it with pride, as he stoops to hold Dec. 4.
out a few crumbs to his pet redbreast, that follows him from bush to bush about the garden. Near Connel the hedges are one mass of haws, and such a display of berries as the holly trees carry we never remember to have seen. The extreme severity of the last week must be all the more felt by all plants and animals, as, little more than a fortnight since, we saw the plants at Bunawe throwing out fresh buds in the genial weather.

Otters are not only very wary animals, of great sagacity—as any animal of that size must be in such a populous country in order to preserve its existence—but they are also great travellers, and have stations to which they resort from time to time over a large stretch of sea-shore. Those we were recently seeking out in Loch Linnhe are probably the same couple whose various places of call are clearly visible and readily recognisable to the initiated all down Loch Creran. As we predicated from the appearances at Linnhe, they had retreated to the inland waters, and one of them, the female, was shot this week above Barcaldine. After her death, her mate came up and sprang upon her dead body, apparently quite ignorant of her fate, or with a view to endeavour to rouse her from her seeming lethargy. But for the empty gun of the keeper both might have been secured.

In the woods to-day, the scampering of a squirrel or a rabbit across the crisp, frosty leaves, was a sound of importance; while the firm crunching step of the fallow deer sounded loud and distinct as the animal broke through the bending brushwood. Most ridiculous do those large animals, with the white posterior patch, look as they spring away up the wooded hillside, and as we passed recently through the moonlit avenues these bright

Dec. 4. white spirits might well have been mistaken for ghosts, but for the firm step that accompanied them as they bounded away. The splendid herd of fallow deer running wild on the hill, are all descendants of some half dozen brought here about 150 years ago, and, although they have continued to breed in and in, without any infusion of fresh blood, during all that period, they are yet a magnificent body of animals for size, shape, and power, and would compare favourably with any herd. The question of inbreeding and its results, although much may be adduced to prove its injurious effects, is still to a certain extent an open question, as there are many apparently contradictory ranges of facts.

We formerly mentioned a brown cow of remarkable intelligence, which caused us much trouble, and demanded much attention. "That brown cow!" sighed its master, as we met in the garden beside the obnoxious animal. "I can easily manage the speckled one, but the brown one beats me." We did not wonder, as we looked at the tousy-headed randy, and thought of the wild, little, bare-limbed Highland lassies we had known, with just the same expression. We had been standing near our front gates a few minutes before, so as to secure its passing bye, and not through them. It really never turned its head, but looked at us askance. No sooner did it find that we had re-entered the dwelling than it proceeded a hundred yards down the road, broke through another gate belonging to a neighbour that admitted it to a field whence she could reach our back gate, discovered on her former visits, and duly noted. "Not a minute stopped or stayed she," but was in the green through the said back gate as fast as she could go. The other followed faithfully, but never initiated. The owner, who is "kept

looking after her," he says bitterly, has decided that Dec. 4.
intelligence in the lower animals is a mistake—for their superiors !

"Have you ever seen an ant's nest?" we ask our friend, Dec. 8.
as we put back the microscope for the night. "Oh, yes, often," is the reply; "there are many of them in the Barcaldine Woods." "But have you ever seen one, examined into its arrangements, and seen the internal construction? No use talking of having seen Buckingham Palace because you have lounged with the sentries outside the gates. Once you have ransacked the galleries, albeit even with burglarious intentions, you can talk of having seen it properly. Well, to-night is hard frost, and if it holds till the morrow we will be able to cut through the frozen hillock and consider the strange habitation of the creatures with deliberation and without excitement." "Yes," he replied, "for two reasons, now is the time." First, the crumbly mass of summer will be frozen sufficiently stiff to enable us to dissect it properly; and next, the inhabitants will not be active enough to make our operations so disagreeable and troublesome as to be almost impossible.

So, on the morrow, with spade and pickaxe, we tramp along over the crisp snow and over the crunching leaves until we reach the hillock raised from the *débris* of the woodland, beneath which ought to be resting from their labours the summer labourers whose energy and co-operative intelligence created it. First we cut off the apex of the heap, and lay bare the topmost galleries there converging, whence they run outward towards the circumference, and apparently downwards towards the centre. This done, without any sign of life, we cut a perpen-

Dec. 8. dicular section straight across, so as to lay open the various galleries, and show their courses and their crossings.

Now, we have some idea of the composition of the abode. Outside of all, the material is small, and mixed with earthy matter, so as to lie close and form a rain-proof covering, over which the water runs freely from the apex. All around, the exits and entrances of the gay and busy summer time were carefully closed, and secured against the cold of winter—not a single open one being visible. Inside this outer crust, as we may term it—for it was so closely compacted that the masses could be lifted, honey-combed with galleries as they were—was a loose, friable, porous centre. This centre portion was composed mainly of larger sticks of the spruce and larch tree, supporting the numberless galleries, and, indeed, forming them altogether. At the bottom, again, the mass was compact, and with larger galleries leading downward through the earth. Only now do the inhabitants begin to appear, slowly emerging from the holes. We had some difficulty at first in quite comprehending the character of the galleries, as we could not follow one for more than an inch. Careful dissection soon showed that it was built entirely on the admirable principle of the great Roman Amphitheatre at Nimes. There the numerous outside doors pass through a thickness of wall to be confronted by a wall, which is, however, only the division between two other passages. You turn, and as you ascend the same occurs again; so that every one can find ready egress and entrance, as the pressure can never be great, and after every few steps a right and left course is open to each. Half the circuit is thus passage, without being open straight to the exterior. This is the

very best contrivance for permitting the exit and entrance Dec. 8.
of droves of busy workers to and fro, with their often large and cumbrous burdens, that would otherwise block up the way.

But we have not yet reached the nest, or winter hoard, and although we have attained the surface of the ground, with large stones and roots of trees dexterously worked into the general structure, the galleries are now excavations extending under ground. These tree-roots were marvellously arranged: not only between the bark and the wood, but even in lines through the wood itself ran the galleries, so as not to spoil the systematic arrangement. Down we dig through the firm soil, and the ants, half dormant, come crawling from the mouths of the holes, in greater numbers, as we descend from the bottom of the heap of debris. One foot down and we lift a huge stone, thinking it must surely be the bottom. No! there they are now in black masses, huddled together apparently in the galleries for mutual warmth. Two feet down, and still we lift up with every spade of earth myriads of sleepy inmates; there large stones, more rootlets of trees, and, as we seek still lower, they throng slowly from the open ends of the side galleries that we have cut. Down as low as three feet the black masses are lying heaped together, straight under the centre apex of the nest, which must have been at least five feet above them. Below this we do not see that they have penetrated. The earth they had withdrawn from these galleries is mixed with the sticks and leaves, from the fir trees, at the bottom and the top of the heap. But nowhere do we see any sign of a winter store, unless the fir buds afford them nourishment, or they eat the fir bark like the Russian soldiers, as our companion suggests. Nothing

Dec. 8. seems stored for winter; no warm nest for their comfort. They all lay in the very lowest galleries, huddled together on the bare earth, and from their sluggish movements and half-dazed condition they could not have withdrawn thither as we descended.

Did you hear the whirr of the pheasant as we came up? Well, we had better throw the poor things back again, with a few spades of earth over them, or the pheasant will have one happy day, and the ants one pang the more. Dearly does the pheasant love the ant hillock, and what a joy to find it open to the winter day and the sluggish occupants at its mercy!

There can be no crush at the door of an ant-hill, nor at the exit from the Nimes Colosseum. When will the builders of our theatres and halls go to either for a much-needed lesson?

Dec. 11. On revisiting, the following morning, the scene of our assault on the citadel of the poor emmets, with hard frost still on the ground, the first sight we saw was a splendid cock pheasant, in fine plumage, who had been making his morning meal of the ants thrown out from the nest. Although these had shown some little sign of activity on first being exposed, they seem to have been at once benumbed by the cold, and never to have made any further effort to save themselves. When dormant at such a depth underground, it is clear that their ordinary winter condition is one of lethargy.

We had a slight thaw one day, but not such as to soften the ground, except on the very surface, and yet the rooks and the curlews were nervously active and excited all over the fields, as is always the case with these birds on a thaw. In a good loosening of the grasp of frost, we can

fancy the worms hurrying up to the surface, and coming Dec. 11.
within range of the strong bills above them; but we cannot think what attracted them with the ground still hard as stone a little below, and no worms that we could see attempting to break through. All over the grass, in front of us, the sphagnum mosses are fast regaining their original ascendancy, and here one can see the results of the morning's work of the rooks, in the numberless bunches of moss torn up by the roots in the search for insects or worms. Whatever the curlews obtain there in frosty weather—we have not yet shot one, in the act, so as to make sure—it is certain that no finer bird than a grass-fed curlew can be placed on the table. After a long severe tack of weather, when they have been obliged to confine themselves, as at present, to the seaside mainly, they lose somewhat of their delicacy. The long, slender bill of the curlew has not the power necessary to drive through half-frozen moorland, like the rook, or tear up bunches of moss, so they are forced in severe weather to seek the verge of the tide for the numberless small crustacea, and other food kept from freezing by the advancing and receding tide. Here they are joined by many birds and animals one would have fancied independent of such sources of supply. Rabbits in numbers feed among the sea-weed, and hares are continually being startled as we advance along the shore.

It is a source of constant astonishment to many how birds on far inland lochs and hills can tell the hour of the tide, and arrive as soon as it has somewhat receded, with the utmost punctuality, notwithstanding its daily alteration. All the hens in a cottage will start simultaneously for the beach, as if they had just been consulting the local almanac. The matter is no doubt

Dec. 11. simple enough, and is the result of varied observation. There is no need, for instance, at this moment as we write for us to look out at the water to know whether the tide is high or low, advancing or receding! An hour or two since and the little bay was alive with feathers of many species: calls, whistles, and shrieks keeping up a continuous excitement among them. From the close vicinity of the sounds, and the number and variety thereof, we knew certainly the tide must be well up, and still advancing. When the tide is at the same height and receding, the birds of moor and woodland have not yet arrived to share the spoil, while even the ordinary waders are not so numerous. Doubtless, from many similar observations, the birds, whose existence depends upon such close watching of the life of the outer world, will be told by many sights and sounds that the daily "harvest of the sea" has begun for them.

On each side of Loch Creran, and almost opposite to each other, are two rocky points of the same name, the English of which is "The Rough Point"—one of the many instances of Celtic lack of imaginative fertility. Past these two abutments into the sea the tideway rushes strongly, and at some distance off each may be seen, daily, since the winter set in, two fine specimens of the Great Diver. Here, in the currents up and down the loch, the fish are most numerous, and these great birds seem ceaselessly to parade the stretch of water within a narrow compass. They are, however, very wary, and only once when unprepared have we got within shot, when suddenly diving it did not again give us an opportunity of examining it closer. Recently it has been stated that the Black-Throated and Great Northern Divers are but one species, in different conditions. This we

cannot credit, as they have at anyrate very marked dis- Dec. 11.
tinctions at the same time of year, and we should like to have more data to go upon ere we accepted such a statement as fact. Both are magnificent birds—the black-throated, to our mind, however, being the finer-marked and handsomer bird of the two. Another very fine presence on the Loch just now is a large Black-Backed Gull, whose snowy breast and glossy black back are conspicuously placed, in daily contemplation, on a large boulder at the end of a jutting gravel-spit. Here he stands with aggravating nonchalance, as if heedless of our approach, but ever drops with a quiet, unhasting sweep into the air, and leisurely crosses the Loch as we draw nigh. With beauty and dignity, however, he is a gross feeder, a cowardly bully, and, as one sums up his character succinctly, a "low thief."

The fatal accident that occurred last week off Port-Appin Dec. 18.
continues to occupy the community here, on account of the bodies of two of the three drowned men being still undiscovered. A great many boats have been engaged in the hitherto unsuccessful search, and two days ago cannon were being discharged with the intention of causing the bodies to rise through the concussion, if they were lying anywhere near the shore.

Many strange superstitions attach to the subject of raising drowned men in the Highlands, and, among others, we have been assured with unquestioning faith by our informant, that if a bottle, corked, be allowed to float along on the water, the moment it arrives over the spot on which the body may be lying it will burst open and sink to the bottom. It would be difficult to trace or account for such ideas, except through some fortuitous

Dec. 18. and accidental occurrence. For instance, at one time, when a man had been drowned near Connel Ferry, the searchers for the body arrayed themselves in scarlet cloaks, as an infallible specific to induce it to float. At that time the body did not rise to the surface until 10 or 12 days had elapsed, but the non-fulfilment of expectations does not apparently weaken the still common belief in particular nostrums.

We have had some royal visitors with us during this week, and have honoured them with that particular attention which is the inalienable accompaniment of distinguished visitors, to whatever department of existence they belong. The general excitement among all those who owned even a pocket pistol was extreme, when it became known that one, if not two, wild swans had dropped their apparently wearied wings upon the loch. One lad was so close upon it he might have captured it, had he not thought it was a heron, never having before seen a swan. Possibly his complete ignorance was better for him than partial knowledge, as such a powerful bird would have inflicted serious injury upon even a strong lad ere he could have secured it. We know from experience what the even accidental snap of a swan's bill means; while a stroke from its wing is even a more serious matter. After remaining a day on Loch Creran, seemingly to recruit, this bird proceeded up the Loch, doubtless to some of the fresh water lochs among the hills. The visits of such birds tell of severe weather elsewhere. Last year one was shot in Lochan Dubh, in the moor near us; but few Scottish sportsmen can add this bird to their list now-a-days, although formerly the title of a "Scottish sportsman" could not be claimed until this, as

well as the red deer, the eagle, and the seal, had fallen to his gun, and the salmon to his rod. Dec. 18.

Our other visitor was a very different one, although it has been skilfully depicted as in mortal combat with the wild swan—namely, the golden eagle. We actually mistook his majesty for a heron, despite the difference of flight, so heavily and low was he lying across our little bay. In place of the broad shadow of his wing silencing the minstrels of the brake, the numerous inhabitants of the ebb-tide screamed and bolted ignominiously. Curlews, rooks, and oyster catchers in throngs skimmed, flapped, and darted off, close to the water, according to their various modes of flight; and, when he had reached the little hill bordering the bay, absolute silence and dearth of life had succeeded to the recent activity and loquacity.

The shepherd on the hill has reported the presence of a pair of them for some time back, but this has been the first appearance in public on the low grounds, and it flew lazily and heavily, and passed within shot of the rocky knoll, with the carelessness of a lengthened immunity from persecution. We hope they may long live undisturbed, but fear, in these days of want of veneration for rank and dignity, that in place of them looking down from clouds and snow on the hate of those below, we plebeians on the plain are merely actuated by curiosity, and a desire to add a crowned head to our museum.

We understand the keeper recently caught sight of a kingfisher in the vicinity, an extremely rare bird in most parts of Scotland. It is now many years since one was seen and shot by the old keeper in his rounds, and doubtless such fatal curiosity is not the way to induce rare birds to settle among us. The kingfisher at any

Dec. 18. time is a most retiring bird—the deepest and darkest-wooded dells concealing his splendid blue uniform.

A blackbird, with a white ring round its neck, has been lately haunting the neighbourhood. The vagaries of partial, and often even complete, albinoism in the blackbird is by no means uncommon, and in most museums a series of "white blackbirds," and others in all stages of partial whiteness, may be seen. We know no colours that will so readily interchange in breeding as these two "non-colours," as black and white may be called.

We saw a few days ago the first of the season's young skates that has come under our observation. It was no larger than the hand, and of a very light colour, and must have been hatched from eggs thrown in May or June. We have not yet been successful in hatching out the eggs of skate or dog-fish, which seem to require a lengthened period to mature—some say seventy days.

Dec. 25. Excepting gaily-coloured cards from civilised centres, there is little to tell of Christmas in this old-fashioned corner. An effort is being made, with hopes of success, to induce the inhabitants of the district to keep the New-Year of the Calendar in place of "Old Style," but as for anything so new-fangled as Christmas, or anything with such a Papistical aroma about it, that is out of the question. They have Christmas weather on the tops, and even well down the shoulders, of all the hills about; but in the valleys and lowlands the south wind has at length brought us rain in sweeping torrents. This has filled up all our water holes, after the long drought, and in one of these a large worm had fallen some days ago, and was unable apparently to climb out up the side. This morning we drew it out with a stick, and found that

it was as lively as customary, after three days' immersion, Dec. 25.
its bleached appearance at once leaving it, and its ordinary colour being resumed. This shows they are well able to withstand the extreme wet of the soil here. As the question has more than once been raised whether a worm can crawl backwards, we experimented with this fellow after saving his life. We found it was very much like the use of the left hand to most people, and that to crawl backwards, although by no means impossible, was clearly an unaccustomed movement, and lacking the freedom of the advance. To extend its tail-end straight back, and send that peculiar flow of matter along, as if a wave were passing backwards, seemed a comparatively simple matter; but the second movement—namely, the withdrawal of the head portion towards the tail—was a much more awkward one, and seemed to give the creature much trouble. Only after twisting round several times, to see if it could not reverse its position, did it accept the situation and retire. We sympathised with the creature most thoroughly, as we have again and again felt the same struggle between "I would, and I must," when forced to use our left hand in an unaccustomed action.

We have had our attention strongly directed towards the marked differences between the winter and summer plumage of various sea birds—a change which, along with the one, two, and sometimes three years required to complete the adult plumage of some species, has made it a matter of difficulty to determine them, and has sometimes multiplied species and complicated characteristics Sitting on the top of the water seemingly, with the winter sun glancing off their plumage as we rounded a point on the loch, was a flock of ducks, and two barrels were instantaneously emptied among them. Up arose, to our

Dec. 25. astonishment, a flock of sand-pipers—waders, not swimmers—and it appeared they had been perched upon seaweed, with their reflected shadows enlarging their general aspect. But what species were they? Dunlins, said everyone; but that is the black-breasted sand-piper, and these were quite white on the breast! Turning up the feathers, we found the feathers were but white on the outer half, the inner portion retaining the black hue of the summer. This alteration formerly caused naturalists considerable perplexity, and the old nomenclature has been cancelled in favour of *Tringa Variabilis*. The same difficulty presented itself in the case of the black guillemot, which we had never shot in its winter plumage, and so were surprised to find one with a fine white bosom, although with the unmistakable black wing, with a white bow, that marks *uria grylle*. These breast feathers were also black on the under half, showing that it, too, only underwent a partial blanching for the winter months. Never have we seen such a flight of jays together as this week, and such a chattering of harsh tongues as only Billingsgate could equal. They skulked off with the customary sense of delinquency of the proper-minded evildoer, nor allowed a near approach. On passing the same haunt in the afternoon we heard such a commotion among the blackbirds, and such restless anxiety and peculiar calls of warning, fear, or anger, that we could not doubt something unusual disturbed the peace of mind of these timid birds, and at once attributed it to the jays. Not until next day, however, did we see an instance of the dread inspired by these birds; as, again passing the same quarters, while the blue wings disappeared at our advance, a gentle, elegant little blackie, with a timid glance around, slipped out from under a

heap of fallen leaves, and jumped upon a low bough. Dec. 25.
That these destructive birds, to eggs and young, should attack full-grown birds like the blackbird we could scarcely credit, but a neighbouring keeper, who is a thoroughly reliable observer, saw a jay, in chase of a blackbird, strike it dead into the sea. What mercy can the smaller fry among the birds expect from these pirates? The scarcity of blackbirds this year was attributed entirely to the last severe winter, which caused sad havoc among them, but the multitude of jays may also partially account for it: while the presence of such numbers of jays may also be accounted for by their following their prey from the deeper woods.

The black guillemot, mentioned above, was shot in the rush of the tideway, and yet, when brought on board, a butter-fish (*gunnellus*), which it had just caught, fell out of its beak. This fish is a ground fish, commonly found among stones and seaweed at low water; could the guillemot have gone right to the bottom, and seized it in its own haunts?

Now that the leaves are stripped from the trees, those peculiar bunches upon the birch trees are everywhere observable; and on one tree in especial there are so many it looks like a rookery. We have frequently cut down and endeavoured to elucidate the why and wherefore of this growth peculiar to the birch, but without success. They are composed of the fine twigs of the tree, interminably interlaced, and curled in upon themselves, until they form a Gordian knot whose cause we cannot unravel.

JANUARY 1, 1880.

Jan. 1. During the whole of the year just gone there was no tide in Loch Creran that rose so high as that of this morning, with the destructive exception of Sunday night last.* This is usually an infallible sign of severe weather outside, in the more open sea. The tide of Sunday, however, although so high in Loch Creran, was by no means so exceptional in Loch Etive, where the narrow entrance prevented the westerly gale having its full effect ere the brunt of the hurricane was over. We have often heard the sea fowl blown screeching against our domicile, in a gale in the far north, but although we were out in the brunt of the storm for full two hours, we could not hear or see a single feather. The gulls had early sought the shelter of the loch, but where they went to during the height of the hurricane we know not, as their usual sheltering cairn was far under water. It is strange how birds escape at such times, as although the game birds congregated, excited and screaming, around the keeper's cottage, in front of which the firs lay mown as with a scythe, none appear to have perished?

The next day, Monday, the pheasants we flushed refused to take wing, except to skulk along like blackbirds, as if they had got such a terrible fright the night before, that they feared to trust their wings before the blast.

Here, by the roadside, is the cosy nest of a squirrel, that has come down along with some of those ranges of fir trees. The substantial foundation of sticks supports

* The night of the Tay Bridge gale.

the deep soft bed of moss, evidently recently prepared Jan. 1.
for the winter, as the mosses have been lately plucked. But where were the builders on such a night? Their homes and stores must have been swept down in numbers amid those evergreen firs—Scotch and Spruce—but none of the occupants seem to have been destroyed. The dexterity and agility of squirrels are so marvellous, however, that unless they had been killed amid the crashing branches, they may readily have escaped. We recently "cornered" one on a bare larch in a young plantation, but the way the creature "streamed" across the fragile twigs of the small larches, to a large tree some distance off, more resembled the flight of a bird than the progress of an animal.

We failed to see the southern shore of Benderloch during the hurricane, but it must have been magnificent, as Loch Creran was a foaming, seething sheet of galloping spindrift; no longer careering ranges of grey horses, but the mad storm of battle.

When oaken woods are hewn down, it is customary to call those left here and there, solitary and alone, "maidens." One such has been a notable tree here for generations. A fine, strong, straight stem, encroaching somewhat on the road, it has been long a famous favourite trysting place for sportsmen and lovers—hunters of the "dears" and lovers of the beautiful. To see the old stagers of the estate stand round the prostrate giantess that they had known from their infancy, unable to move the decapitated trunk, and yet unwilling further to mutilate, was quite affecting. Don't let any unfeeling reader suggest that the labour of sawing it once again had ought to do with their tenderness!

The wood of the spruce trees is so short and brittle

Jan. 1. that multitudes of these trees were snapped across midway up the stem, unable to bear the leverage required to tear up the roots.

As we trudged across Glen Salloch on Tuesday in the blinding snow-storm, we turned and looked back upon the scene of desolation below. At least 50 noted trees, chieftains of their race anywhere, and each with a distinguished personality, had fallen. Along with them 500 "gentlemen" of the clan were also down, and yet, as we looked over the Barcaldine Woods, a stranger might have been ignorant of the destruction, and once the *debris* is removed and the ground cleared only those who knew and loved the familiar forms will miss them. And so the world wags. On the northern slope of Glen Salloch, descending to Loch Etive, the snow still lay thick, and the loch just there was calm and still, surrounded by the snow-covered or besprinkled hills on every side. Gradually, as we descended towards Ardchattan, snow gave place to slush, and turning westwards to meet the westering wind a deluging rain succeeded, that stuck to us bravely on the rest of our course round Benderloch. Since then, rain has been continuous, so that the roofless homes of Sunday night will be with difficulty patched up so as to be water-tight.

To meet this difficulty New-year ways come "appropos," every heart you meet being shielded by a cuirass,—in the shape of a black bottle in the breast pocket. You hear a stealthy step, and a sturdy figure enters the doorway, making you jump, and rush to secure all those valuables and good things that *ought* to be lying about promiscuous at New-Year. But the face is too solemnly good humoured for a burglar—if such were within 50 miles—and the grin that gradually opens with the opening bottle

reassures while it alarms the beholder; for only a new Jan. 1.
patent steel stomach can endure with equanimity the marvellous mixtures that the stills and ingenuity of the North prepare for the votaries of the "Grand Custom." But it is "not for the drink, only for goodwill," says everyone, as they help materially to pay the bill for the Afghan war.

One peculiar effect of the late hurricane—to be long remembered as the tragic *Tay bridge gale*—was the narrowed localities in which its concentrated virulence fell. Clean lanes were cut through the woods of Morven, leaving walls on either side. The Barcaldine woods showed similar results in groups of trees going in certain spots, all around remaining firm. This was not solely owing to one tree carrying down its neighbour, nor to one loosening the soil and roots of the others, but apparently to concentration of effort on the part of the gale. This was very marked to anyone who was out during the hurricane, which was fitful and unsteady, and without at any time the long-continued sweep of some gales. No doubt its very intensity necessitated a short duration.

Birds of strange plumage have been amongst us, our Jan. 7.
friend explained, as, on an unsuccessful stalk after mallards, he had fired into a flight of smaller fry, so as not to return empty-handed. Three of the fallen proved to be comfortable, compact, elegant-looking, and most cosy ring-plovers or Ring Dotterel (*charadrius hiaticula*) with black-banded foreheads, tapering wings, and plover bills, although only eight inches long. These were plump and in good condition, and, indeed, so easy-going that their companions were regardless of the shot, and immediately alighted close by. But four fell! A search

Jan. 7. revealed one of a totally different build and character, without the shiny white breast or banded forehead, to tell its whereabouts on the dull shore. A "Turnstone," at once said a diligent student of "Cassell's Book of Birds," and sure enough on examination we found it to be a veritable Turnstone (*strepsilas interpres*) that had kept company with the gayer plumaged plovers and had shared their fate. The spare, active figure, straight, sharp, firm bill, and small, well-set head, contrasted strongly with its companions in misfortune; and we could not help having vividly brought to our recollection the life-like description, by the naturalist Edwards, of the persevering, dexterous, and intelligent efforts of a similar bird to turn over a large fish on the shore, in order to enjoy the rich feast of insects under it. We have never seen one here before, but as the species is said to frequent all sea-coasts, and to be cosmopolitan in its character, it cannot be considered rare, although somewhat uncommon.

As we wandered along the shore of Loch Etive to-day, we were greatly astonished at the remarkable tameness of the wild-fowl. Wild ducks swam quietly out a little way from some quiet bay, that would have risen with a splutter and hurry-scurried off from any portion of the Creran shore. Grebes did not seem to trouble their quaint little heads as to the presence or absence of humanity, and, as we observed to a passing friend, it was quite clear he did not lounge along the Etive shore with a double-barrel under his arm, on murderous thoughts intent. His reply quite corroborated our observation as to the usual fearlessness of man exhibited by Loch Etive wild fowl. This is the more remarkable as on most of the loch the shores are not so open as in Creran, and the birds could readily be approached unobserved; so that the only reasonable

explanation is that they have observed its greater freedom Jan. 7.
from bloodthirsty gun-bearers, and the loch having got a good name among the feathered tribes they cast precaution to the winds.

"Ah! and had ye a goot funeral?" asked the old man in Glenelg, as his sons returned home from the ceremony. "And had you plenty to eat and drink?" "Yes, plenty." "And had ye a goot fight?" "Na, na, there was no fightin'." "Ah!" sighed the old veteran, "there are no men now-a-days!" Hereabout itself there was a time, not so distant, when all the quarrels were settled at the funerals; and the men, as they cut their cudgels and balanced them in their hands, would say lovingly, 'Ah! what a fine stick for a funeral!'" But, fortunately, times have changed, and the assiduous and meritorious efforts of their excellent clergymen have reduced the *ostensible* liquor consumed to one glass at the house on leaving, and one glass at the grave. But distances are long, and the climate is moist, to say the least of it, and it is not to be wondered at that Highland funerals were also generally wet. On the hill road to the Achnaba graveyard, from Loch Creran side, there is a large stone on which the bearers used to rest the coffin, and close alongside is an artifical mound of earth, now almost part of the moor. On this the cask of whisky was placed, so as to keep the bung high enough to enable the bottles to be filled, and the glass is said to have circled so frequently that on one occasion all fell asleep, and on waking half stupid and altogether cold, one after another went off home to Appin, whence the cortege had come. In the morning the coffin was found by a shepherd, who had to reassemble the company next day, so that they might complete the interment!

Jan. 7. These recollections are called up by the decorous, orderly funeral we have just witnessed, where true sympathy and good feeling were not allowed to run into excess. We have done better than the worthy and well-intentioned minister of Glenelg, who, after a tough battle with his kirk-session, at last got them, as a great and unheard of sacrifice, to agree to only two glasses at the house and three at the grave. "Five glasses of whisky," said the horrified doctor, "You and the Kintail folk are a disgrace to the country." "Ah, but," replied the most obstreperous member, with infinite contempt, "Kintail would be as bad wi' five glass as we'd be wi' fifteen." It is scarcely credible the efforts that have been required in order to promote moderation at, and insure decency of deportment on returning from, a funeral, and many of the older ones yet require a keen eye over their movements, and evidently consider a funeral, without a good skinful of whisky, as an arrant swindle.

But the hillock for the cask is becoming indistinguishable, and the stones near by for the trials of strength—the larger for the maturer, the smaller for the younger men—are no longer in vogue. Some may yet look back with wistful eyes to the days when drink, dancing, and fighting were inseparable from a "good" funeral, and a lady could leave a codicil in her will that her nephew should provide so much whisky for the ceremony over her; and that he, her heir, should not only lead off the first dance, but begin the fighting; yet we fancy the community on the whole is satisfied with the change, and the next generation may even think two glasses of whisky ample! At present, "they'll think apout it!"

"We must have a day after the white hares," that is Jan. 14.
certain, said everybody to the old keeper, who had decided that the long-limbed ghosts that inhabited the hill tops should be scattered among the tables of the tenants. So those who love sport and those who love nature, those with a desire for a chest full of mountain air, and those with a craving for a plate full of hare soup, gather on the late winter morning to the one-sided combat.

As we leave the lodge the wind is just a little sharp, but the day promises fairly, and the snow has left the hills almost entirely clear, so that the winter garb of the Alpine Hare (*lepus variabilis*) will prove but a delusion and a snare on the brown and bleak hillside. Gradually we advance beyond the beautiful wooding so badly punished in the late storm, and our companion-in-chief points sadly to his favoured specimens now "level wi' the bracken." Drawing inland, up the glen, we meet the wind blowing sharper down the narrow bleak gorge, and the road is at present uninteresting enough, with a little heather and a vast amount of sphagnum moss, into which mountain sponges you sink half to the knee. We are at first inclined to be critical and non-receptive, until we warm to the climb. As we turn to the hill by the shepherd's house we look lingeringly at the lonely ash tree "left lamenting" over its fallen companion the silver fir, last survivor of a fated race unfitted for the severe surroundings. We have broken up our party so as to cover more ground, and, taking a sheep path to the shoulder of the hill, climb steadily upward. Once we get more comfortable in our circulation we actually see beauties all about. Dainty little nooks under the overhanging rocks, fern-bordered ponds amid the moss; and, dear me! where were our eyes that we did not enjoy

Jan. 14. those mosses themselves, in their splendid masses of "living" colour, in the deathlike sleeping time of the year!—yellow, rose-pink, and brown in masses, as if Paxton had given the Genius of the hill a lesson in landscape gardening. The wind is too snell, and this side of the hill too exposed for even Alpine hares, with their wonderful depth of clothing, to be fond of lingering upon it to-day; so we clamber up carelessly, and, as we reach the ridge, turn and look back over sea, loch, and mountain tarns, and ranges of hills to the distant sea, now faint and indistinct in the gathering mist. Keepers to right of us, keepers to left of us, and one has "volleyed and thundered," so we must give over dreaming and attend to our gun.

There she goes! the "woman in white" scampering up the further hill side; for no hare will run down hill by preference, and "excelsior" is ever the motto of the white species, which assuredly will take to the hill tops. A shout, and we rush forward to cut off a possible retreat, when up bobs a beautiful head, and a graceful creature, curling up its long limbs, sits on the summit of the rock, and looks at us with timid inquiry. Alas for the pot-hunter! he disappeared, and pussy in her ermine robe might have sat there long enough, had she not bobbed over the rocky knoll and fallen to a less meditative hand. "Hoping nobody saw us," we proceed, only to find ourselves met by severe reproval, so we resolve to harden our hearts and sharpen our wits in the future. The hill-side is now covered by a sharp hoar frost, and the wind is keen near the summit, so that hands are all deep in Paisley gloves until the warmed fingers may be required. We cannot spread very far for fear of "losing touch," as they say in the army; but we are now on somewhat

more suitable ground, with little sheltered gullies, so the guns are banging merrily, and still the white maukins occasionally run the gauntlet among the intervening stones, and disappear in the mist of the summit. "He who ascends to mountain tops shall find" white hares in plenty, but to-day we keep along the shoulder, and there! see those hills on the other side of the Black Glen! As if just touched with sunlight in the mist, they appear like a gilt frame protected with muslin, and that background of hills beyond the distant sea-loch might be the sober-tinted wall on which it was hung. Jan. 14.

It is long since we left the region of grouse, but Allan has seen three ptarmigan, and we have been nagged by two golden plover. Only two! and once on a time it would have been two hundred. But these birds have mysteriously disappeared. The ptarmigan, too, have become scarce like the partridges, since the year the disease was bad among the birds, although before then they were both extremely numerous.

But the keeper's bags are heavy, so we congregate at the stream for a refresher; while the botanist, who has followed along the edge of the gully through which it flows, remarks upon its commonplace character, no fern but *Polypodium vulgaris* meeting his inquiring eye.

Through the withered bracken, *under* the overhanging silvers, we were about to say, but so many lay prostrate it was really over, or under their trunks, as the giants were sometimes too huge to clamber over even in their low estate. Seventeen feet in circumference, and this in Scotland, where Dr. Johnson's walking-stick was a marvel! Who can think of white hares under such evergreens, and as the poor hares cried most uncomfortably like children, for themselves, there are those who would

Jan. 14. have wept like children for these fallen monarchs, once so dearly prized.

Very peculiar is the effect, on the dull hill-tops, as a pure white animal slips out from under a great stone, or out of some sheltered hollow. Full of grace and elegance, with the great ears thrown watchfully forward and the eyes turned timidly back, the first movement is that of a white tame rabbit, ere fear adds wings to its flight. This hare will very generally take shelter in hollows and holes in the rocks, a thing we have never known the brown hare to do, and we have been told of one captured some way into a rabbit's earth, whither it may have sought shelter and security. They are very numerous among some of the wilder Scottish hills, and an informant even speaks of 1500 killed in one battue among the hills of Rannoch, where the keeper could have parted with 3000 without destroying the stock!

Jan. 21. We have been frequently astonished, during the winter months, at the presence of whelk spawn in bundles, and we formerly mentioned having found the animal depositing said spawn in November. This appeared to us then a very curious phenomenon, as we could not possibly suppose it other than abnormal; but after the great storm, we found this spawn in great masses, both in its gelatinous condition, and also further advanced, with many of the cells from which the inhabitants had just escaped. During the week past we have again observed these great whitish masses, even more numerous, at the bottom of the sea, than we ever saw them during the past surly summer, and fancy they must have been deceived by the temperature of the water, which, until this last severe spell of frost, was for some weeks very mild. It seems

strange that such a profuse waste of procreation should take place among these creatures, in an unsuitable season of the year, as these shell-fish are not specially fitted to withstand severe frost, but on a cold day may be found gathering in great multitudes in sheltering shore crevices. That cod or herring, with myriad foes, should throw vast quantities of ova, with the prospect of a certain proportion reaching maturity at the proper season of the year, is rational, and within the compass of our intelligence, just as plants fling abroad their seeds in profusion; but that molluscous animals should emulate trees, that bud profusely in a mild winter, takes them out of the region of active intelligences; for the only advantage must be to other creatures that feed upon such spawn, as neither the individual nor the species can be apparently advantaged. We suspect, from late observations, that the lower order of marine creatures go on multiplying so long as the water is at a reasonable temperature, and so provide a never-failing supply of food for the teeming population of the littoral. Jan. 21.

We dragged up from the bottom, at several fathoms, a very large sun-star, which had lost several of its limbs at various distances from the centre. These had healed, but not yet grown. They were not sufficiently fresh cut to say whether they had been torn or nipped off, and it would have been interesting to learn whether it had lost these lime and gelatine appendages in the struggle to deprive some oyster of its existence, or in the effort to secure its own.

Immediately after the high tide that accompanied the storm recently, vast flights of gulls were unusually busy upon the grass lands that border the sea; and from their activity, zeal, and loquacity, were evidently very success-

Jan. 21. ful in the object of their industrial operations. The cause of this was the thorough soaking with *salt* water that the land had received to an unprecedented height above ordinary high water; the effect being to bring out the earthworms in multitudes, on their way to fresher soil, where they might not be salted alive. As earthworms largely eat the soil, which is vivified, and opened, and kept loose, and more easily oxidised by their aid, it is clear that they had the prospect of living entirely upon salt provisions, not simply living in a salt dwelling. Thus it was that, as they hurried out for fresh provisions, the gulls were provided with an unaccustomed feast at little cost of labour. All this flooded land will show poor results for some years to come, as it has been virtually "sowed with salt" to such an extent as to seriously affect its fertility.

Great bundles of serpulæ tubes were thrown ashore in one bay, by the storm, where multitudes of sea-fowl most do congregate. The brilliantly-coloured inhabitants of these must have proved quite a windfall to the various species of birds, as the tubes, being broken by the violence of the waves, enabled the weakest billed birds to reach the beautiful dwellers with ease. The carmine-coloured droppings all over the stones of the beach were such as to attract the eye of an observer, and explain the cause, even amid the many vivid tints of the shore. Such seemingly insignificant signs are often of great value in ascertaining facts most difficult to reach by direct observation.

We are all accustomed to consider that the spring is the time when the birds do sing, whether to their mates, or in anticipation and expectation of a sweet companion. More especially do we attribute to the dove that rhymes

with love, and whose burnished plumage assumes a Jan. 21.
"lovelier iris" in the spring, that note of affection that usually lasts but through the happy summer time. But this year we have heard it continually of late, and the old keeper, over whose many-wintered head they have coo'd so long and often, never recollects a year when they continued their notes so uninterruptedly. As we predicated, on the beech-nut harvest being so plentiful, the doves have been quite numerous this season, and their vicinity has brought us the pleasure of the frequent visits of the peregrine falcon, who dearly loves a pigeon, in default of a grouse. As we passed into the garden a few days ago, the dash of a flight of pigeons was so close to us, and they were so utterly regardless of our presence, that we at once looked round for the blue hawk; and sure enough there were two of them, circling around with motionless wings, except an occasional flutter; like the skimming movement of a skilled skater, and the two or three steps ere he starts on a fresh curve on the outer edge. "Great circle sailing" they were, like tea clippers. A neighbour informs us that he went out one evening at dusk, and was standing at the corner of his house, when he heard something dash past which he struck with his stick. This was closely followed by another in chase. The bird struck proved to be a grouse, the peregrine having followed it through the steading in its eagerness, when too dark for the keen-eyed narrator to see either properly. Surely this is a most exceptional action in a hawk?

Our Highland sheep are so plentifully supplied with "snuff-mull" heads that, when they find themselves in wooded or coppice-covered districts, they are by no means so safe as when on their native heath. Crossing through the wood a day or two since, we came upon one whose

Jan. 21. horn had got entangled by curling round the stem of a small copsewood tree. This had at length forced it to lie down exhausted, and here it had lain for three days, covered, when found, with hoar frost, and quite prostrate, but still alive.

Jan. 28. Some weeks ago we piled a large quantity of heavy stakes over a moss-clad bank by the side of a ditch, as a temporary resting-place, ere we should find weather and opportunity for a further journey. But it so happened that Messrs Field Mouse, having cast their eyes thereon, decided that this would be a first-rate position for a winter camp, more especially as they, no doubt, considered such a mass of heavy material would never be thus piled except with the likelihood of remaining until the "merry, merry sunshine" should again bring round the spring. Last week we removed the pile, however, to our boat, and at the bottom came upon a beautifully-made nest of the field mouse half-covered with the soft, growing, green moss. The nest itself could only have been made as a snug dwelling-place in which to spend the winter—not as a nest for their young. It was considerably larger than the "cricket-ball" to which White of Selborne—whose description is always quoted, even in our latest natural history books—compares it; and was formed of finely comminuted dried grass, of the softest and most delicate character procurable in the neighbourhood. The result was a very soft, warm, cosy nest, made by concentric layers of the small pieces of grass, loose and fluffy on the outside, and getting closer in texture and firmer as we near the centre. The "nest" proper was very small, and no entrance could be discovered at first from an outside view; nor would a casual observer

have taken it for other than a careless bundle of dried grass. On examination, there were discovered two holes, one of exit and one of entrance, and connected with them, along under the moss over which the stakes lay, were roads of some diameter, along which they could readily speed, should one or other have been invaded by the deadly insinuating form of a weasel. Considering the little creatures whose energy and industry had created it, the bundle of fine grass was quite respectable in dimensions, and very well arranged in the purely circular form. It was clearly not made by gathering this quantity of grass into a bundle, and afterwards creeping in and arranging a nest in the centre, but was apparently rolled up as one would roll a ball of pieces of broken worsted. We are not aware if they have been seen at this operation, nor can we well fancy how it is managed. Jan. 28.

In a new work of natural history, there is produced an illustration of one of these nests in the straws, near the top of the corn stalks, as if this were the usual place for them. A friend who has turned up scores of them in this neighbourhood tells us he never saw but one an inch or so off the ground.

We have recently had the pleasure and regret of examining an unusual number of the nests of the squirrel, without the destructive process of dragging them out of the forks of the trees, where they are usually securely fixed. The destruction among the spruce trees could not fail to bring down these airy habitations, where they could be readily and leisurely looked into. They possess all the snug comfort to be anticipated from such a cleanly, active, and intelligent creature as our graceful friend; and, once it is curled up in the centre of such a house, with its long tail folded round it, and its little companion

Jan. 28. alongside—for the pairs keep together through the winter, and play about together on the tree tops— it must be a severe winter that can incommode it.

First, there is a good layer of sticks across the forked branches close to the trunk, the numerous branches of the spruce being peculiarly suitable. Upon this the soft moss is coiled in quantity, loosely outside, as with the mouse, and more close and firm in the interior; while on the top another layer of sticks is placed irregularly. As in the mouse, too, there are no *apparent* holes, the moss being left loosely over the entrance, and many a time when we have climbed with toil and struggle to such a nest, have we sought long enough ere we could find entrance for our hand. Quite a flutter we were in, too, lest the mother should have remained with her young, for well we knew the splendid ivories that might meet in our hand should such prove to be the case. If proof of the superiority of their teeth were wanting, there they are in the nest! All those twigs are cut in one snap, as clean as if with a sharp knife—a poor chance for even the hardened fingers of a nesting school-boy.

Each of these fallen trees is the haunt of a hungry community day and night. The squirrels by day have left nothing but the centres of the fir cones, and we could not think what strange growths, like great thorns, were upon the tips of the fallen silvers: the centres of their cones being straight, hard, and almost black. Again, pass along at any time these moonlit nights, and the white sterns of the fallow deer will dodge round among the boughs, refusing to speed away until you have mischievously dodged them once or twice around the tree. They are feeding upon the tender shoots at the tree tops, and as these evergreens will continue to grow and keep

fresh for a long time, drawing nourishment from the earth attached to their torn roots, they will prove quite a godsend to the large herd of deer that haunt these shattered woods. Jan. 28.

There has recently been a controversy as to the horns of deer, and what becomes of them. A correspondent of a scientific paper actually repeats the nonsense as to their never being found, and with the customary love of mystery of ordinary humanity, seeks for occult reasons for a wholly imaginary fact. We to-day came upon the horn of a young buck, the end of which had been gnawed, probably by a dog, and such finds are by no means uncommon where deer abound. Being valuable, of course "them that finds keeps," as the school boys say, while those that lie for a time in the damp of the hills or the forests soon decay sufficiently for their most non-edible portion to crumble away, after being deprived of the gelatine by insects or grubs.

FEBRUARY, 1880.

Feb. 4. Our boat was drifting in the strong current down the Sound of Eriska, keen eyes watching the rapidly passing sea-bottom for objects of interest or products of value. Not a fin was to be seen as we sped along, any more than during our lengthened and watchful progress down Loch Creran, and it was with a feeling of satisfaction that we launched out our eighteen-feet handled iron, even to drag, from the laminaria-covered, rocky bottom, the brightly-coloured spiny ball, that proved to be a fine sea-urchin. Very different do these interesting creatures look, with their brilliant spines among the golden-syrupy tangle fronds, from what they do when placed in the cottage window or the collector's case, a lifeless piece of lime. We have never met any of them in Loch Creran itself except of small size, about one or at most two inches in diameter; but these are very numerous. In the deeper waters and more open sea, outside Eriska Island, they are found of more mature dimensions, or larger species; and are more suitably called "sea-crackens," after the large milk bowls.

Hist! look sharp! there is something white and glistening on the tangle frond, and the hurrying boat is stayed in the rush of the current, while by dexterous jerks and tosses the unknown object is brought to the surface and secured. It proves to be a beautiful specimen of *tritonia*, a species of nudibranch mollusc, with rows of elegant branching lungs and a delicate pink-white tint that brings to us the petals of the gay summer-toned bramble. Only a snail! indeed: about an inch and a

half in length, but nevertheless of the most exquisite de- Feb. 4.
licacy of construction, and a proof of the wonderful versatility of nature in producing charm, elegance, and real artistic beauty in the humblest ranks of her creatures. Again! and a prompt young hand has dashed over the gunwale, and another of still larger size, quite two inches long, is brought on board. This, like its predecessor, proves to be dusted over with a beautiful pink or rather carmine powder, not unlike cayenne pepper; and suggested spawn, notwithstanding the season of the year. We can never sufficiently admire or wonder at those delicate creatures, that wear literally their lungs upon their backs as ornaments, and can only protect those important objects by curling round backwards, and enveloping them with their bodies; the belly or "foot" of the mollusc being then outside the circle. We have kept a fragile specimen for several months in a small basin of water without any nutriment save what it can draw from the water itself, and yet, with the wonderful tenacity of life of most of the mollusca, it has thriven in its narrow prison. When it throws itself on its back, with the branchlet lungs downward, and sets them all moving, we should almost be led to believe that they act as locomotive organs; yet from their extreme tenderness, and the importance to the animal of keeping them safe, this surely could not be.

"I have a flask, but we have no cup," says a despairing voice, as we progress outwards towards the islets; recalling us suddenly to more personal and selfish considerations. Will we go ashore and seek for a receptacle of some sort, or what is to be done ere we get out among the barren and deserted rocks, where nothing can be found?

Feb. 4. A cup! why, just wait a little; surely there are lots to be had. Down goes our iron, and up comes the gleaming white shell of an oyster, deeply cupped and well rounded, showing the late inhabitant must have been weel-faured and comfortable. But this is received with quiet contempt. A dram to satisfy a Highland throat out of any house a Scottish oyster could rear: not to be thought of.

You are indeed difficult to please, but will this do? and up from the depths we bring a mussel-shell. A mussel-shell! Perhaps you think this was received with greater contempt, as who could expect a reasonable "nip," even, from such a cup! No! there was general satisfaction with this piece of ocean's handiwork, and well there might, for it was exactly six inches long, and held, when measured, "two good glasses and a bittock." Rightly is it named *modiola*, from a drinking vessel. So, thus prepared, we wandered about the islets, whose hair had been torn from their heads by the storm; the long-gathered turf and soil being stripped off, like the skin from our knuckles as we stumbled over the rough and sharp-pointed rocks. But we find nothing to repay our trip, save the trip itself, as the tide is too far in. So, after sweeping our iron at the dusky form of a skate, stolidly lying on the sand at the verge of the seaware, quite regardless of our movements, we return as we came.

Yesterday we varied our life by hewing down a Douglas pine, six or eight inches through, that was crushed between two fine Austrians, and neither received justice itself nor gave it to its neighbours. The whole air was richly scented as we proceeded, and once we had lopped the branches, and left the bare pole, the odours of Araby the Blest were around us. Throughout the day our

hands were deliciously exhaling the recently stolen de- Feb. 4.
lights, and we could not distinguish the scent in the smallest degree from that of the fresh-cut pine-apple! We own to an especial weakness for this fine fruit, and as, at the same time, our main pleasure is derived from the delicate yet searching aroma, we really enjoyed it yesterday, without paying Buchanan Street prices. We do not know whether, or what, other pines possess a similar odour; but, no doubt, from the name of the fruit, which must have been derived from this property, there may be others similarly blessed. Could not a plentiful supply of "pine-apple bouquet" and "pine-apple flavours" be prepared with facility from a few of these trees, which of late years have been largely planted throughout Scotland? Now is the time for such an enterprise, as the Douglas pines have suffered greatly in the late storm; either from having grown too freely for their strength, from sending down no tap root and not throwing out sufficiently strong lateral roots, or else from some inherent weakness that unsuits them for withstanding such severe strains. We are inclined to think they have generally grown too freely, tending to be all a little "shaughly" at a certain age, like an overgrown schoolboy.

The "thief month," as February is known by in the Feb. 11.
North, is certainly sustaining its reputation, so far as it has yet gone. The saying is, that February steals a day or two from every month in the year, and gives one of its own back again in return in due season. It is without doubt the most unsettled month in the year, and November is not more stormy; while here to-day we have a bright day stolen from June, and, but for the snow-capped hills about, it might well be we were in the midst of the

Feb. 11. "leafy month," but alas! without the leaves. So bright and fresh indeed was the scene, as we looked from our boat on the loch to the sun gilding the snow-peaked Bens, that we felt as if in Switzerland, as no otherwise could we associate the day with the cold surroundings.

While everyone is quoting the sayings about Candlemas, it seems forgotten that it was Candlemas "old style" that they refer to! A story is told of the grandfather of a neighbouring clergyman, who, as he waked on the morning of the important day, asked whether the day were fine or "foul." If fine, he jumped up and hurried off to buy a stack to fodder his cattle; but if "foul," he complacently composed himself again to sleep, satisfied that the grass would be ready for his stock ere his winter feed was exhausted.

We recently stated how surprised we were at the escape of our wild birds of all descriptions during the storm of 28th December, as we had met none of them injured or destroyed by the falling trees. Now that the story is an old one, and the birds have gone to that "bourne whence no traveller returns"—a healthy Highland stomach—the fact leaks out that those early on the ground did not fail to find the bodies of various slaughtered birds about the fallen giants. Quite a number of wood pigeons were killed by the falling silvers in front of Barcaldine House, and these were not found amid the branches, from among which they had managed to flutter; but had fallen dead some distance from the crown of the prostrate trees.

The rooks were "preparing for a storm" yesterday, as indicated by their peculiar flight and restless movements, and to-day our little bay is full of gulls sheltering, and here we have it down upon us already, in a severe gale this evening, after a breezy but pleasant day.

When walking across the home park near Ben Breac lately, we saw the old keeper, with his setter, beating the ground near us most assiduously for woodcock, and, owing to the unsettled weather, with an empty bag. But "Providence provides," as the Tod motto has it, so just then we dropped upon a duck, which we accordingly dropped into the empty game-bag. It was a good fat duck that had evidently been well fed at the back-door of somebody, but its head had been snapped clean off as with a sharp hatchet, and one leg broken! Had it been anywhere else, we would at once have said Mr. Fox has been here and been interrupted in his foraging expedition; but we had never seen his red figure by hill or strand in the district, and had been assured of his total absence from this side Loch Creran. But although he has been well weeded out, he has not by any means as yet been exterminated, and our foresting friend, who knows most living creatures around, assures us he came upon a fox and her cub on the hill not very long ago, and the mouth of her burrow was well strewn with the remnants of hare and lamb, that had served as a daily tidbit for the youngster. Feb. 11.

The fox-hunter for this district lives indeed far inland among the hills, but he comes as far as Achanrear, a farm close beside us, and inclusive of the hill behind the policies, in the exercise of his vocation. It is customary in the Highlands, where foxes, even on the most limited scale, commit terrible havoc among the lambs of the sheep-farmers, to keep a skilled hunter for each district, who is paid by the sheep-farmers according to the hundred head of sheep their farm carries. He then makes his regular rounds with his trained dogs, tracks the various foxes to earth, digs them out, and destroys them.

Feb. 11. As these men grow old in their vocation, they become acquainted with every nook and cranny of the hills, and understand Reynard's every wile. Their dogs too, become remarkable for similar skill, as well as for the tenacity with which they will stick to their prey over enormous stretches of ground. A dog belonging to the old foxhunter, tracked a fox northward across the hills of Glenure and back again over the hills towards Ben Breac, where it ran Reynard to earth, above Barcaldine House. Here it gave voice, and brought the keepers to the spot. As they were digging the fox out the sagacious dog circled about continually, in case of some other exit; but when the fox was clearly localised in one spot, the dog was caught and tied by one of the men. No sooner did they near the bottom of the "earth," however, than the dog turned upon its keeper, savagely placing its feet upon his shoulder. He was fain to let it go, when with one plunge it tore out, and killed the "relation" it had clung to so patiently. Only inherited and trained antagonism could have educed such a remarkable display of endurance and tenacity without the prospect of an edible capture.

> "Ho! ho! ho! the foxes!
> Would there were more of them,"

sings Ban Macintyre, in his hatred of the innovating sheep-farmers, who had expelled the crofters. And no more effective wish could he have expressed. Still, in spite of the wild fastnesses to which they can retire, it must demand all Reynard's historic and axiomatic skill and cunning to exist in the Highlands. The result is that our foxes are far stronger and swifter than their Low-

land fellows, and are regularly taken to England to im- Feb. 11.
prove the breed, and give greater sport in runs across country.

Here is a fox story that would please Dr. Lindsay, as an evidence of animal progress in intelligence! Our informant "had it from a shepherd":—He was crossing the hill, when he saw a fox coming along with a long piece of board in its mouth, which it dropped as it ran off. Upon examination, it proved to be covered with a thick layer of peaty mud, "in which a lot of eggs were sticking." We do not vouch for the story, but although improbable, we cannot consider it impossible! Meantime, we neither know the individual fox nor shepherd.

Will she hold water? "Yes! she lies sare on her Feb. 19.
back," was the question and reply as the new moon made its appearance. And certainly it has held water, and continued to toss it over us, o' nights especially, ever since she came in. The result of this very open and comparatively mild weather, which has continued all the winter since the early spell of frost, is that the works of man and nature out of doors have been equally pressed forward. The Oban Railway, to which the inhabitants of Benderloch look to link them with the centres of civilisation, rapidly approaches completion; while bud and blade, on bush and bank, have thrust themselves forward with a facile effrontery born of ignorance of their native clime. Despite the "mechanical" character of intelligence, the youthful vegetation has not "inherited experience" of centuries of March winds, but with the courage of folly, and the hopefulness of inexperience displayed by the animal creation itself, invites disaster. We fear the invitation will be accepted, and that our fruit

Feb. 19. crop will suffer accordingly. The birds, too, have been singing merrily for some weeks in the sheltered warmth of the Barcaldine Woods, and for a week past their spring notes have been heard in the more open country. The difference of even a few hundred yards is very marked, and as one emerges from the close, hothouse atmosphere of the Ben-and tree-environed snuggery, one feels a sense of relief from semi-stagnation and oppression. Such an experience, even on a trifling scale, helps to make one understand the sense of nothingness, and the listlessness, of the dwellers in the great forests of the tropics, where man sinks into nonentity, crushed by atmospheric and material surroundings in the midst of mighty possibilities.

But we have wandered far from our feathered friends, who are whistling merrily from the topmost boughs; and that little black-headed fellow, with the fine, clear metallic whistle, is the "old woman with the black head," as they call the cole-tit here, although some, possibly with equal exactitude, give the name to the black-cap. We have lost sight of the bullfinches for some time, but all kinds of tits are very numerous at present, and, indeed, with the squirrels, which have multiplied amazingly, monopolise the life of the woods. The yellow and other buntings are numerous in the neighbourhood, and show no sign yet of breaking up their companies. As we were walking along the road near Dunstaffnage yesterday, we heard the whistling of the wind across the telegraph wires with a clear, steady constancy which at length obliged us to stop and see how it arose; for, although there was apparently no doubt about the sound, which is a very characteristic one, yet the fact that only a light breeze was abroad aroused our suspicions. Very soon we traced the sound to the field beyond the wires, where dull specks

were visible on the dull field, and in answer to a piece of Feb. 19.
the neighbouring geological formation dropped into their midst, a cloud of small birds, like a cloud of midges, arose and circled about. All the time of their flight, as during their field operations, they kept up that incessant twitter whose continued effect resembled so closely the wind among the wires. They seemed to be a species of bunting, still in their gregarious state of mind, nor thinking, as yet, of sneaking out into the conservatory from Nature's ball-room in distracted and oblivious pairs.

We only saw one thrush, with its gentle eye glinting up at us from the ditch almost at our feet, and this during a lengthened walk of twenty miles. These birds suffered greatly last severe winter, and are very scarce about. No one has yet heard their welcome notes this season.

There has been a considerable rainfall of late, and as we approached the southern shore of Connell, the Etive Loch was emptying itself seaward, with a rush and spin that told of the tide well turned, and plenty of "water" mixed with the briny to force the torrent through the rocky gap. Standing "waiting for the ferry," eyeing dreamily the dancing waters—that are always such a pleasing sight in their power and energy—up bobbed the head of a seal that had just run through the falls from the loch above, and was now rapidly borne out to sea. His head appeared to be swept out on the boiling waters like a cork float, but in reality he was swimming rapidly away down the current. At all these strong currents, where they change with the tide, we find seals, usually only at "slack" water, when for half an hour or so the current is so trifling as to be scarcely perceptible either way, and the great tangle fronds swing in an undecided

Feb. 19. fashion, ere making up their minds to withdraw their slippery lengths, and stretch their other surface to the light in the contrary direction. So soon as the current becomes decided, the seal turns lazily, and stretches out to sea. But at Connel there was only one course open to him, he must enter Loch Etive for a hunt above the falls when the tide was still flowing, and make his exit ere it had turned too far.

While we were watching the movements of the seal, another head, with a good neck attached, appeared in the midst of the bubbling current; even holding its place in the full rush of waters. For a moment we ask ourselves is it a Great Diver, or a Cormorant, but it settles the question first by rising and flying still further into the midst of the waters—a thing a Northern Diver will rarely do—and again by curving its snake-like neck into a loop, and turning right tail-end-up as it dived down. A Diver would have gone slash straight down, cleaving the water with its straight, strong beak. Long the "scaraf" remains under the water, and as it comes to the surface again and again, does so after its lengthened immersion, still further up the current than it entered! The swimming power demanded by such a feat must be enormous, as no ordinary boat could have been rowed against the rush of water, and it more than once emerged from 50 to 100 yards further up. At least twice, as we looked at it, did it bring to the surface a good-sized fish, cross-wise, in its beak, and once at least we thought we could detect the bird toss it slightly with a rapid jerk, and catch its prey "end on," and so in a more available position. Both the seal and the cormorant are daring divers, and strong swimmers; but while the seal will, to our experience, always shirk the strain and labour demanded in

fishing in such a rush of waters, where fish were clearly to be had, the cormorant and the Great Diver will always choose such stations, and prove themselves masters of the situation. Feb. 19.

We are to-day enjoying all the advantages of an island, in being cut of from any communication with the outer world for a little. Last night it blew a very severe gale from the west and northwest, increasing in virulence towards the morning, and coming in great squalls that at their greatest force could have been but little short of the December storm. So the various ferries were impassable for a time. Feb. 26.

On Saturday night, as we emerged from the woods near Barcaldine into the moonlit glade, the owls were crying so loudly and distinctly as to exercise a most marked influence on one's imagination, in the silence and calm otherwise predominating. Everyone said that a change of weather was at hand, and so on Sunday and Monday the apparently owl-foreseen change came, in two days of perfect calm. This must be the "peacock's tail," with which the month ought in justice to be out, we fancied, and the week will be good, and our boat may be afloat without fear of being blown "over a house," as was done in one case during the gale! But no! In comes our friend from the back garden, and in broken English and solemn tones assures us that the blackbirds are singing very fine. And what of that? "There will be a change of weather; sure enough this won't last long." And certainly next day came squally, showery weather, culminating in snow, sleet, hail, and storm yesterday and to-day. So now no gay voices are heard about us, the pipes were notes of

Feb. 26. warning, and neither mavis nor merle are singing in the brake alongside. Only the redbreast and the tree-sparrow hurrying back to our crum-besprinkled doorway, and the rooks in a restless unstable condition, squalling, tumbling, and cawing as they endeavour to maintain their equilibrium in the bitter blast that sweeps the green turf before the door—these alone are audible.

But it is a universally true saying that it's an ill wind that blows nobody good, and this is certainly the case with the nor'wester that is down upon us to-day, throwing wrack in abundance on portions of our coast unvisited by it of late. Throughout the winter the gales have prevailed almost exclusively from the south and south-west, throwing a harvest of seaware on the coasts with a southern or western shore; while the spring work is close at hand, and northern shores have had little wrack thrown up to supplement the cut ware, with which all hands will soon be busy as the weather moderates. So, seeing you have suspended our operations, and shut us out from all active out-door employment, blow your best, and shake loose the tangle forests, and tear off the great Alaria fronds, that are to return to us after many days in porridge or potatoes! This ware, thus flung so profusely ashore after these great gales, is not so much valued as the black ware (*vesiculosus*) that is cut at low water in great quantities in early spring; but it is much easier procured, only requiring carting from the shore, where it is thrown at high tide. The whole extent of shore in the Highlands is thus divided among the various tenants, who value at a high rate the important supply of manure thus so cheaply, and generally so abundantly, supplied. It is therefore an important question for a Highland coast crofter or farmer, whether the shore

is a good one for seaware, and readily accessible; and this enters to some extent into his calculations. Occasionally, where there are many tenants, among whom the beach is divided, the supply may not equal the trouble of watching and subdivision; but, on the whole, the seaware with which the West Highlands, with its numberless lochs and islets, is so plentifully supplied, represents a large sum of money as manure. Not only so, but it represents money that would never be expended on manure, and consequently keeps much land in heart that would otherwise be allowed to lie in scanty pasturage, or necessitate a periodical fallow in the old-fashioned style. So, knowing all this, we control our impatience, and even look out with interest at the white-crested reapers of the wrack-harvest as they rush shoreward in their strenuous haste. Feb. 26.

On returning from a shooting excursion some time ago, we knocked over a squirrel with the expressed intention of taking it home for dinner; so a day or two since the shrewd and intelligent keeper, with an incredulous smile on his lips, presented us ironically with another. It was really a splendid specimen in fine condition, with its fur in beautiful order. At this time of the year their stock of nuts has been exhausted, and as nuts never properly filled or ripened last year, they may never have been of much economic value to Mr. Squirrel. The consequence of this is, that they have been all living for a lengthened period on fir cones, with the result that they are strongly impregnated with the smell of the pine-tree. Indeed, they may be said to be quite turpentiny, and this smell, when so very essential, becomes exceedingly unpleasant. However, as Mr. Squirrel looked uncommonly plump, more especially towards his strong hind limbs, which

Feb. 26. were fat, and promised to be savoury, we did not feel inclined to lose our tid-bit, and by simply placing the prepared animal in clear running water for a day, this unpleasantness entirely disappeared, and we had the satisfaction of enjoying a very pleasant dinner upon an animal which is so extremely cleanly in its habits and its diet that it recommends itself at once to the most fastidious. Now, it will surprise most people to know that, after making all allowances for the deep fur and expanding skin, a good fat squirrel makes a very good meal for a man, both as to quantity and quality.

There is a curious old custom that used formerly to be in use in this locality, and no doubt was generally employed along the seaboard, as the most simple and ready means of arrangement of bargains by a non-writing population. That was, when a bargain was made, each party to the transaction got one-half of a bivalve shell—such as mussel, cockle, or oyster—and when the bargain was implemented, the half that fitted exactly was delivered up as a receipt! Thus a man who had a box full of unfitted shells might either be a creditor or debtor; but the box filled with fitted shells represented receipted accounts! Those who know the difficulty of fitting the valves of some classes of bivalves will readily acknowledge the value of this arrangement, which may even have been the original derivation of the expression to "shell out."

MARCH, 1880.

Monday night, 1st, recommenced dashing our loch into fury, although it had been but shortly freed from the tail of the previous gale. So severe was the wind during the night that we scarcely expected our communications could be kept up; and the troops of horses that were passing towards Oban during Monday were left in groups at the various ferries unable to cross. Tuesday was the horse market, but after crossing our Loch Creran with difficulty in the morning we found that, even under the shelter of Eriska, the long ferry to Shian was not yet prepared to pass animal cargo. A few horses in a large boat act like a mainsail, and would drive a pair of oarsmen back upon the quay even in a moderate gale, so we can understand how severe weather, such as we have had almost without interruption since the New Year, should cause idle groups to hang about the crossings of the lochs, and the contiguous public-houses, to the serious inconvenience of the districts. We never feel so inclined to accept "fate," stick our hands in our pockets, and adopt the practice of *laisser faire*, as when we are helplessly kicking our heels at an uncrossable ferry. March 4.

Throughout the winter we have been regularly visited by a succession of smacks and small vessels, very often bringing us a supply of coals, and taking from us our surplus potato crop. This has been, as usual, our most valuable crop, the production being very large, and the quality as a rule thoroughly good and sound. We should calculate the export from Benderloch alone to be not less than five thousand barrels, which would go far to pay the

March 4. rent of the various farms. They are always very free from disease with us, and, whatever be the cause, we believe the district of Kiel, in Lochnell, escaped the general potato blight, even during those terrible years from 1846 to 1850. Although seaware is so largely used upon the land, it is not relied upon so much for potatoes, as these latter grow more abundantly, but much wetter, under this dressing. We have lately been told that in the Channel Islands, where such enormous quantities of potatoes are grown early for the London market, sea-wrack is mostly the dressing used; which will account for the very watery and fushionless character of the Jersey potatoes, as well as partly explain the manifold produce, which is stated at an average of 460 to 480 bushels to the acre! Here we are satisfied with an average of 150 to 200 bushels, although in exceptional years 360 bushels have been reached.

Every where but a short way under the peat we find a stratum of rounded, water-worn stones throughout Benderloch, and these are of such a size as, in mass, to be quite immovable by an ordinary animal. This will no doubt explain the small number of rabbits that are to be found in the district. Here and there along the coast, where the banks have slipped, leaving room for one or two burrows, the rabits may be seen scudding down to the shore to nibble among the seaweed, or scampering over the nearest field, but they are by no means plentiful. It is only about twenty years since a few were taken across from Connell to Benderloch, where, without multiplying greatly, they have spread all over the district, wherever convenient or suitable corners could be found; but hitherto these have been few and far between. Now that so many trees have been torn up by

the roots, loosening the soil all around, and exposing March 4.
suitable ground for burrowing, we look to a great increase in our droll little friends, possibly to the extent of adding another grievance to the tenants. But rabbits do not love peat, and they have nowhere increased inordinately in the Highlands upon such lands, so that, what with this inconvenience, along with stoats and foxes, numerous hawks, and no lack of ravens to prey upon the young, we are not likely to be much troubled with what in many districts is a scourge to the farmer. It is somewhat curious to find rabbits reaching this quarter so very recently, and we are the more ready in consequence to give credence to the statement, which has been made us on most reliable authority, that a farmer in the vicinity of Glasgow, of no great age, remembers a time when there were *no* rabbits in Scotland! This, of course, applies to the part of the lowlands with which he was acquainted. Since our boyhood they have been countless in Perthshire, and we have seen fields so covered with them about the river Almond that they actually seemed as if growing a crop of rabbits. This, however, would not necessitate more than a very few years since their introduction, and it would be interesting to learn from others whether this comparatively recent date assigned to their immigration is borne out by general facts. We so soon get accustomed to our surroundings, and look upon them as "always so," that we forget the possibility of their recent character; and it may quite well be that this troublesome little stranger from the Balearic Isles is as recent as it is formidable. The progress of agriculture, in supplying a more plentiful feast for man and beast, in a once hungry land, has drawn many hangers-on in its train; but their connections, the hares, have thriven in the Highlands far

March 4. more than the rabbits have ever done. White hares, when introduced into the outer islands, caused the utmost consternation from their ghostly appearance, and the superstitious feeling connected with them was even recently very strong in some parts of the mainland. We know of one case where a farmer was so convinced of the stock on the farm being bewitched by an old woman in the neighbourhood, who went about in the gloaming in the shape of a white hare, that he lay long in wait determined to shoot her before she could return to her proper form. Having shot the hare in question, he hurried home with it, put it into a large chest, which he locked, throwing the key into the adjacent loch, so that no one could possibly let her out. There the animal lay in a decomposed state, to the great relief of the man's mind; and as the poor woman shortly afterwards fell ill, and died in the course of nature, nothing will now convince him but that he still has the evil spirit of the witch under lock and key in his now long most offensive chest!

As we came up the Linnhe Loch this week the snow lay well down most of the Kingairloch and Lochaber Hills, and where the wind had cleared it off towards the foot the red deer could be seen in groups by the side of the gulleys, having descended in search of a clear space, as well as to escape the bitter wind, chilled in its passage over the snow-clad peaks.

March 10. There has been a very widespread discussion as to whether the acquirements of a parrot are entirely such as the generally received opinion would imply. That "to speak like a parrot" is merely a senseless and thoughtless repetition of what has been taught, without considering the applicability or force of the phrase em-

ployed, is to many an accepted axiom. We have fre- March 10.
quently been struck by the very *apropos* character of a parrot's observations, and the knowing, mischievous dexterity with which they will torment a dog and its owner, by first whistling like the master, and afterwards barking like the dog, must have been observed by most people who have seen talking parrots anywhere. One used to bother us greatly by calling the dog in for the night so often, that it declined to answer the legitimate call, which the parrot then did itself by barking so naturally, that we were deceived time after time by the dexterous imitation, nor were we undeceived until the almost demoniac laugh of the bird at its successful mystification broke the illusion. To suppose that this were other than intelligent and wilful imposition, in order to beguile the passing hour, is impossible; and the conduct of a gray parrot we have just heard, proves to us conclusively that they have a distinct "method" in their volubility.

Hanging in the room close to the kitchen, it was amusing itself in its loneliness by imitative sounds and snatches of airs, but these were just started and no more, nor did it once complete a stave, although well able to do so. It soon appeared that its attention was divided, and its concentration removed from the work in hand, by the tongues of the girls in the kitchen, to whom it was listening carefully. Its intellect, thus astray in the next room, was unequal to the effort of remembering and completing the airs; not being a Cæsar of the parrot tribe, able to concentrate a divided attention as that great soldier is said to have done, by dictating to four secretaries while on horseback on the march. Two or three lessons as a rule sufficed to fix a new phrase or lesson on the memory of this bird, and it showed a

March 10. marked acquaintance with the value of the several phrases as well as, in a curious way, with the value of the several words that formed the phrases. Thus it had become acquainted with the names of the sweethearts of the servant girls, no doubt hearing the one asking the other about them; and then, to their great annoyance, suddenly commenced to institute jocular inquiries respecting them. When one of the girls entered the room where the parrot's cage hung among the family, the blood was unexpectedly sent to her cheek, and resentment to her eye, by the question being asked her in the richest Doric, "Mary Ann, hoo's Jamie?" or, "Bertie, hoo's Sandy?" and this was done with such mischievous intent as to be unmistakable. The bird in consequence was thoroughly frightened by threats and shaken fists, as the exasperated girls endeavoured to silence it. Here came in the most amusing and curious illustration of the bird's knowledge of the value of the words and their exact influence and effect. In place of the whole sentence being repeated as heretofore, the bird now fell back on the tactics of a mischievous school-girl, and called out, "Mary Ann, hoo's"—trusting by implication to annoy, and by evasion to escape punishment. This seemed to us most remarkable conduct on the part of the parrot, and to display an unexpected knowledge of the intricacy and value of language. We suspect that the exceptionally intelligent character of the family in which we found this bird, may have reacted upon it as we find to be so often the case with other domesticated animals; in fact that "like master, like dog," is looked upon as an accepted truism. Indeed, we should go further, and say that the dog, as a rule, is an aggravated edition of its master.

There are two dogs with their owners that we have in

our mind at this moment illustrating our meaning. The March 10.
one is full of quiet, confident audacity, without the smallest fragment of self-depreciation or false modesty; sturdy, stolid, and determined, without being at all necessarily impudent. We would describe its owner in exactly the same terms, but somewhat milder, and both are remarkably sound, good specimens of their respective breeds. The other dog is a striking contrast, painfully diffident, with beautiful brown eyes, always with a deprecating light in them, as if terribly conscious of its unhappily dependent position in the animal world. It meets you with a kindly expostulating look and wag of the tail, as if desirous of acknowledging its unquestionable inferiority, but suggesting that you might graciously extend your amiable friendship towards it, out of your boundless magnanimity. The smallest favour is received with the most extravagant demonstrations of delight and thankfulness, and its gratitude on all occasions for any kindness is apparently most heartfelt and sincere. All these qualities are aggravations of those of its master, who is shy, reserved, and unwilling to intrude; with keen feelings of his own, and a sensitive regard for those of others.

Some little time ago, we looked out of our window at two young colts, who were affectionately biting one another's necks, evidently to their great satisfaction and gratification. Just then up came our hardy terrier friend —that, with all its gentleness, has pluck and stamina for anything—and stood facing the young animals. The look of affectionate, kindly sympathy with which the doggie stood wagging its tail opposite the two animals was most interesting, as if he entered into their feelings completely, and would have liked if possible to join in their demonstrations. There was a most remarked look

March 10. of thoughtful consideration about the dog's face, as if he were thinking over their mutual kindness, so difficult to express and communicate.

The fable of the dog and the ass was forcibly recalled to us, as it was almost re-enacted on the farm near by. A gentleman who was lodging at the farm-house took an interest in an intelligent, playful, young foal, and was in the habit of petting and patting it, so that the foal became very familiar and kindly disposed. As he walked down the field one day, when the foal had became a colt, he was suddenly startled by the violent concussion caused by the animal leaping up and placing its fore feet on his shoulders, in its endeavour to frisk about him as the collies did. The shock was sufficiently severe to be a lesson to him to choose less vigorous pets; and, although he was too much imbued with modern ideas to cudgel the animal for a most natural display, it obliged him to avoid its company; the fable, which to us was formerly a ridiculous imagining, thus proves to be a reasonable probability.

March 18. We were sitting down to luncheon in a dwelling amid the woods of Benderloch, when the rapid, energetic movements of a small bird, on the trunk of a beech tree opposite the window, attracted our attention. Going over to examine it more carefully we were greatly surprised at its appearance and conduct; and but for the fact of its presence in Scotland being, so far as we are aware, an unrecorded fact, we should have unhesitatingly pronounced it a nuthatch *(Sitta Europœa)*. The quick, jerky manner in which it ascended the trunk, rapidly examining with its strong little bill the thick moss-covering of the tree, as it moved in short courses, with first

one shoulder then another in advance, was striking and peculiar. It had neither the mousy movements of an allied creeper, nor the habits of a woodpecker, and while we examined it carefully within a very short distance, we could not divest ourselves of the belief that it was indeed a nuthatch; however difficult it was to credit its appearance so far north. Had we been able to see its movements upon the branches, we should not have hesitated to pronounce upon it, but it stuck with determination to this particular moss-covered trunk, always flying down again to recommence its ascent. In this alone did it resemble the woodpecker, which always works upwards on a tree.* March 18.

A crowd of buntings were in about the little neighbouring stackyard on Sunday, 14th, and, although a primrose was peeping out from the bottom of the dyke close by, and all the air was summery, and the sea clear as crystal, yet the birds gave anxiety to the owner of the yard, as betokening a change of weather. And so it came, in dry, cold east wind with sharp frost at nights, these few nights past; indeed, the first severe east to north-east gale of the winter. These buntings keep well out in the moors and distant fields, save when driven to human neighbourhood by the prescience of severe weather.

The effect of variations of weather upon animal life is often much more direct and striking than is generally supposed. We were recently discussing with a lady friend the influence of electricity upon some individuals, and she observed that on certain occasions her hair crackled in the most distinct manner, more especially at

* This bird must nevertheless have been a creeper, despite its peculiar movements.

March 18. times when she suffered from headache. We have a gentleman friend who also is affected in a remarkable manner, in an electrical condition of the atmosphere—his hair almost standing on end, and being apparently in the electrical condition of a black cat's fur. No doubt both the headache and the electrical state of the lady's hair above mentioned were caused by similar atmospheric conditions. A celebrated New York physician used always to brush his hair straight out from his head all round, so as to catch all the electricity which might be obtainable, and this he imagined to be an invaluable assistance in the preservation of his health! We have frequently, both in our own case and that of our more intimate youthful companions, heard our flannels crackling distinctly, and more than once seen the accompanying spark when undressing for the night.

But all our experiences are thrown into the shade by the usual American prodigy, an electric girl, who gives shocks like a battery! We do not mean to doubt the possibility of an abnormal development of the above peculiarity, and we have no doubt most of our readers have, some time or other, received at least magnetic shocks from some young countrywoman in her teens! The subject is interesting, and might be profitably investigated in a series of careful experiments.

It is difficult to fancy the bottom of the sea to be influenced to an important degree by the varying weather; but while busy at the shore at low tide some days ago, we found the life of the littoral, at least, to be influenced to a marked degree by the mild winter that has passed. On turning up the large stones at low water, it was evident that the season had allowed of the advance towards maturity of much of the spawn that we had observed in

early winter, and even now fresh masses of spawn, both March 18.
of the whelk, and the common dog-whelk, were in large bundles among the stones. The butter-fish, in all stages of development, were, as usual, legion; and young conger eels of most recent creation were here and there exposed to view. These varied in size, from a few inches to one good-sized belated rascal, two feet long, and quite equal to the honour of being boiled or stewed. A pretty row he made as his temporary tenement was overturned, as if he had not himself to blame for hanging about the edge of tide, like an overgrown baby, in place of boldly seeking the deeper waters.

Under many of these large upturned stones we found a species of gelatinous, convolvulus-shaped secretion, of a character and appearance we were unused to. It was not only elegantly shaped and of snow-white aspect, but beautifully striated; and it was not until we found four small nudibranch molluscs, all maternally engaged, that we understood we had alighted on a lying-in hospital for these most remarkable creatures. We do not recollect having found them before so employed, nor were we at all familiar with their spawn.

The bundles of small bead-like, glassy eggs of some species of fish were frequent, and we observed them in the same little bay some weeks ago. We know of none exactly like them, excepting those of a fish that we have never yet met with in our loch. This is the lump-sucker, a most unwieldy, uncouth fish, widely distributed along our seas, and doubtless also to be found with us. Its eggs, however, differ from the roe in question, as we have never found them except of a delicate pink colour; while these eggs, although similar in appearance otherwise, are opalescent. But it is impossible to enumerate

March 18. all the evidences of awakening nature on the littoral, if, indeed, it has ever been asleep this winter at all.

Our meadows and moors, as well as those of many other districts we have recently traversed, have been this year covered with an exceptionally abundant growth of a common leathery grey lichen, which must be anything but agreeable to the flocks and herds grazing thereon.

March 25. Tuesday night, 23rd, was so cold that we had ice at least three-eights of an inch thick on a pail of water outside, and yet it was followed by a very hot day. "Dry work and dry weather," said the mason, "have you a well?" So to our little woodland well he was directed, and, as he scorned the offer of a cup, stooped to quench his thirst in nature's fashion.

On his return, with wide open eyes he asked "if we had ever heard of horse-hairs turning into eels, for that there was a creature at the bottom of the well, and it was verily moving." Here was again cropping up the old belief of our childhood, and the ever-present faith of country observers, and we smiled the smile of incredulity and superior knowledge as we rebutted the absurd declaration. Still, anxious if possible to see the source of the error, and disprove it practically, we went to the well, and there at the bottom, apparently slightly oscillating with the entering current, was a small grass stem! Down went our arm to the bottom, and up it came between our fingers, feeling distinctly what it looked, a thin stem of grass; but, as we placed it on the grass, lo! it moved; so lifting it on the sleeve of our coat, it caused us to exclaim, like another Galileo—Indeed, it moves!

Here, indeed, was a reason for the faith that was in them, and recalled our own persistent belief in a living

horse-hair in the days gone by, for the creature was most March 25.
certainly alive, and was scarcely thicker than a good, strong horse-hair. Another peculiarity was that it was of uniform thickness all the way from head to tail, without the slightest tapering or shaping, nothing varying the appearance of the olive-green tinted thread save the small, black head and another dark speck at what we call the tail. It put us in mind of the double-headed serpent that used to be shown in menageries, for little distinction was there between one end and another, except that the tail had the persistent curl of a young pig, which it retained through all the revolutions of its body, while the black head led the movements and kept towards the surface.

The length of the creature is about six inches, and it is of a sluggish disposition, as it did not attempt to elude capture in the well; and apparently it is of a very simple organisation, but owing to its very minute structure, only the microscope can display this. The creature is well known to certain observers among the country folks, and is doubtless the original cause of the belief in the metamorphosis of a horse-hair; and yet in the many contemptuous contradictions of the prevailing bucolic faith we do not recollect ever seeing a description of, or allusion to, the direct cause of it. It is admirably adapted for entering into an animal, preparatory to further development, as it would not attract the attention of most men or animals drinking at a spring, and might thus very readily introduce a most dangerous parasite into the system. Meantime, we can say with certainty that there is something like unto an animate thread or hair, that it is unquestionably a living creature, and that even now it

March 25. is twisting about in a tumbler of water in our window, "to witness if I lie."

Two grey wagtails alighted on our roof yesterday, to show that they had arrived in the district, and then rushing together went off locked in a ferocious embrace, fighting desperately. So the pairing season is clearly commencing, and these two males evidently concluded either that ladies were scarce or that this little country was not big enough for both.

Two nights ago we heard the call of the peewit for the first time, but we are informed they have arrived in the vicinity ten days ago. One stayed about Bonaw all the previous winter, and took refuge at night in some sheds, latterly becoming quite tame. The wagtails, too, although birds of passage, yet remain in certain sheltered nooks, as we saw them during the winter both at Bonaw and Ledaig, which they seemed to find as mild as was requisite. The note of the cuckoo was said to have reached the neighbourhood on Sunday; but although we were all around the locality indicated, it did not reach our ears.

To-day the sun shone out like a summer day—the old summer days, not last summer—so we started seaward, where but for the ripple on the water, that gradually increased with the rising gale, we might have seen the sea bottom as clearly as the grass park beside us. Owing to the continued dry weather the loch is exceptionally clear, and we could see the individual polypi expanding on the various zoophytes at more than a fathom depth. These zoophytes partook of various beautiful shades and tints, and the white animals, all abloom over them, showed indeed like ocean's loveliest flowers. The masses of yellow sponge, too, look very beautiful in the water, although much of its interest is gone so soon as it is dry.

Everywhere life was at its liveliest. Fish spawn was March 25.
clustering under the tangle already, the young and the spawn of many molluscous and other marine animals was well forward, but more especially the white gelatinous spawn of the nudibranches was wide-spread, showing clearly that they do spawn very early in the year. We saw these molluscs themselves on one rock in multitudes, such as we never saw before, lying together in little heaps; while all the ordinary shelled sea-snails were out in great force, crawling over the tangle in the sunshine. But we weighed the weather this morning in the "mackerel scales" of the sky, and here the stiff breeze is upon us ere we start homeward, blowing straight in our teeth from the east, so we settle doggedly down to our oars, and with old father seal bobbing up occasionally, out of shot, to see how we get on, we struggle through the boiling barrier "where the wind and waters meet."

APRIL, 1880.

April 1. In the ordinary course of things we should be having our ditches filled with frog spawn this last month—those large masses of gelatinous matter, with the dark embryonic beginnings of life studded all over them, each a centre of individuality-to-be. But this last week, as we crossed over the Appin hills opposite us, in a quiet moor with a southern exposure, to our surprise we met the little tadpoles themselves in a mass of scuttling life, regardless of the freezing nights, and only noting the warmth of the bright spring day. So enticing has been the weather of late that we fully anticipated the birds would have been deluded into building ere this, but, except the time-honoured rooks that have rebuilt their nests on the trees adjacent to those in which their neighbours were located when the storm swept trees and nests to the ground, we have seen none whatever. As we lay "in our boat in the bay" near Cregan Narrows, a hooded crow assailed us incessantly, as it shifted from the solitary birch or mountain ash to the midst of the trembling poplars. Clearly it was annoyed at our injudicious presence, and endeavoured to scold us away, no doubt its nest being in close proximity. But we paid no heed, except to watch with an occasional glance its possible nesting place, without result.

The day was good, the water calm, the depths clear, so we had started early up the loch, that we might scan the bottom of the narrows at low water. There are the bare gables of an old house, on a beautiful green bank, facing down the loch, where an artist had once chosen ground

as the most favoured spot on which to end his days. April 1.
But the gables were still left untouched; and as we neared the little bay we were surprised to see a bright wooden cottage newly raised between them, and a throng of living men, not ghostly wanderers, on the beach, while a little smack lay opposite. These were the tentacles of grasping civilisation, gathered to erect the concrete breastwork that is to replace the former stone breast carried away in the gale. So they have wisely fixed on the "Salt Crofts" as a temporary habitation, where the workers in the salt-house close by dwelt in olden times, ere Cheshire salt had beaten old ocean, and half desolated for a time the Scottish sea-board. For the same salt that has thrown into disuetude our salt pans and salt pits has, in the shape of soda, driven our seaweed-made kelp into at least temporary banishment.

We now quietly pass the smack at anchor on a placid sea, with the men lounging on the bow, and grumbling at the calm that to us is a joyful surprise. For is not the hour of low-water approaching, and does it not usually bring with it a time of petulant restlessness, as if, like a tired school-boy, it were wishing to return from its seaward ramble? We hung over the gunwale, dragging our marine prizes from two fathoms of water. Just as in midsummer, up comes the same infinity of life with every ocean marvel. In the empty shells of bivalves we draw up gobies and gunnel fish, the former as timid and beautiful, the latter as madly restive, not only under restraint, but under the slightest inspection, as all others of their kind. Whew! a splendid oyster, like a good saucer deep and round, with dexterous jerk is thrown into the boat. A movement inside demands inspection, and then from the partially open edge we see a nose

April 1. emerge. Peeping in we find no oyster certainly, but a mamma gunnel-fish, looking very pale and interesting, nor inclined for the usual dance of dervishes which ordinarily follows our observation. Beside her is a large mass of those opalescent eggs we have formerly referred to, and it is apparently in this snug retreat to which she has retired that she has endeavoured to provide for the certain continuance of her restless, excitable, omnipresent race. We know no fish so common on the shore, and were there but one here and there they would appear abundant, for the moment one thinks itself discovered, or finds itself uncovered to the vulgar gaze, it commences such a course of gymnastics as would shame a Leotard.

It is still one hour to low water and we watch the anchored oysters with parted lips—very slightly parted—suck in their myriad nutriment. How sensitive the creatures are to the light above them; the shadow of the iron as it passes overhead is instantaneously noted, and, snap! the lips are firmly closed. Youth! youth! how much you are responsible for. Here is a crooked, deformed, twisted oyster cramped between two large stones, where it had taken refuge in its tender babyhood ere its wings were thrown off. How little did it consider the future, and its vast possibilities of growth, in its anxiety to lay hold of something where it might cling in safety. Had you just gone round the corner, you might have emulated your neighbour there, standing up from the top of that ocean boulder full five inches, with two others only inferior to himself hanging on to his lordly skirts, and a younger scion of the house borne easily on his mighty back. But he who surpasses oyster kind must look up on the love of those above; and so our iron

invades his sacred territory, and as he almost spurns the rock beneath him in his pride, he is readily removed to a higher sphere. Not so that rascal lying flat on his stomach, and hugging his boulder, fat with good living, and with the edge of his shell projecting well over his mouth, so as to give a sharp reception to all comers, save those minute organisms that go to build up his succulent body. He is fat, however, and iron is strong, and that projecting shell will help us, so with a jerk away he comes quite easily; for was he not too corpulent to make much resistance, and he has "left his estate the lighter by the loss of his weight." April 1.

The water still falls indeed, but a ripple rises, and that is as bad as a gale, so far as we are concerned; so we lay down our poles with resentment at the ways of nature, and sitting down turn seawards. There, skimming away on the breeze, is the little smack, rejoicing in the morning air; so we acknowledge that the world was not made for us alone, but that smack owners demand a little consideration; and even the gaping bivalves, who will now be left for a while longer "to do their duty in the limited sphere in which they have been placed."

The day was very cold, and bitter squalls of wind, sleet, and hail were sweeping down upon the loch, and curling it into white breakers. No day for a leaky boat and a heavy cargo to round into the outer loch, and struggle through the current against wind and tide; but it has to be done, for is not to-morrow the great day, when all the world meets in Oban to settle to their own satisfaction, or unsettle to their disgust, the affairs of the world and the seat for the county. So on Tuesday, 6th, prepared for discomfort, we cross the sloppy, mossy turf April 8.

April 8. with a friend, when who should meet us on his morning prowl but Mr. Snail. "I wish you good luck, and here the rascal comes," said our comrade, "and you may be very thankful, for indeed he is not on a stone." No, indeed, he is flopping across the wet moss like ourselves, and yet we feel as if our luck would have been greatly improved had we both been on stones. But the old adage has it, that, as you set forth on a journey, it is the worst of luck to see a snail on a stone, or a colt with its back turned to you, or at any time to hear a cuckoo in the morning before breakfast! With this last, at any rate, we entirely agree, and cannot believe it is anything but ill-luck when we hear the cuckoo, without being well prepared to enquire into its grievance. And who can possibly sympathise with such a noisy character, with their whole minds absorbed in the considerations of when breakfast is to be, in place of looking back with snug satisfaction on breakfast over!

But the snail is left behind, and we toil down through the white-tipped waves, with the black squalls gathering over the hills of Ardnamurchan, and sweeping along with unseemly haste to the north-east. There is little stirring on sea or shore, and save the ever-present curlews and oyster-catchers on the rocky point and outlying islets, who screech and scatter with wild haste on our sudden appearance, nothing breaks the quiet save the rush of the squalls. A few sheep are scattered among the black rocks of the surly shore, and "we see a lamb" is announced by one of the party. "Which end did you see first?" is the anxious inquiry, and as it turns out to be the head, the omen again is propitious, and we press on vigorously. For is not the wrong end of the first lamb of the season as bad as the back of a colt, and worse too,

as the one is but bad luck for the day, but the other for the season. So, although the baling dish is continuously at work, and the gunwale is low in the water, the gale lulls, and the squalls keep off until we pass the exposed bay in safety, and once more approach the rocky point which we have to weather! There the tide must be low, or something we are unaccustomed to is upon the seaward edge of the rock, for the very end is ornamented by a regular series of dark points, like the water-worn edges of distorted laminous strata, end up. Not until we are within a stone-throw do the points move, and with a combined graceful stoop and swirl, a flock of dunlins skim away seawards. These graceful little birds have been strangely absent from our neighbourhood for some time, and must have taken advantage of the very open weather to frequent the inland moors. April 8.

There is a strange object on the water, with yellow points standing over the waves. A dead duck say we all, and on approach it turns out to be a poor goosander, that has been sadly torn by the greedy gulls, ere the rising tide has borne it seawards, for will not a gull eat anything, and those black-backed bullies are worst of all.

To-day's tide went out exceptionally well, with the north wind keeping it out of the loch, so we enjoyed a walk over the little hillocks—the heaped sea-sand, or rather marl, raised by those large strong worms, the mainstay of the line fisherman, the lugworms. Splashing like school-boys through the water, we find little but gobies in the pools, and the long leathery tubes of the terribelli, suddenly projecting themselves above ground, so soon as the returning water apprises them of their safety. For this vast hunting-ground of waders, swimmers, and divers, is no safe spot at low water for any living

April 8. edible creature; and, save where some large stone secures them safety, all that can scamper off with the outgoing water make a hasty retreat. Still the number of creatures eaten daily on that expanse must be enormous. We have seen morning after morning a stately heron opposite our door regaling itself where the stream enters the stretch of foreshore, and such a large, greedy bird is not going to return there daily unless well supplied. This stream and the sea about it are each thronged with small but gelatinous and succulent gobies, and these little fish seem to add much to the enjoyment of the ducks. The heron waded continually back and forward across the stream, and very amusing it was to see the long legs gradually disappear in the deeper water, until the loose tuft of feathers on its breast was lifted on the water, and then blown about by the wind—just like a little girl gradually edging up her petticoats as she wades nearly to her armpits. But the great solemn visage of the heron adds to the absurdity of the situation, and one wonders whether, if it saw itself, it would repeat the operation, for some birds have a most distinctly-marked sense of the ridiculous.

We have come to the distinct conclusion that an oyster which has attained maturity is about the most absolutely helpless mollusc in existence. There is no doubt that it is a possibility for one oyster to make a slight movement, by the expulsion of water, in a similar manner, but to an infinitely inferior degree to the pecten; but that an oyster ever turns over when laid face down, or can by any exertion move a foot or two, we do not believe. That is to say once it is mature. In a heavy surf on the shore it may be tossed about, but its movements are then unintentional. We certainly do not believe that any oyster,

finding itself in an uncomfortable position, can ask its neighbour "to lie over a bit;" nor have we ever seen them do more than throw themselves down, or over, when in a raised position. The contrary has been often asserted. The French insist that their small oysters can raise themselves through the mud. April 8.

Poor little things! you see, that all comes of lurking around in the dark, when the sons of Belial walk abroad, in place of doing your courting in broad daylight, like respectable shrew mice, with the approbation of both families! There they are, a warning to all true lovers not to go a-courting in the mirk, at a cottage corner about an open well—two little shrews found drowned side by side. Who knows how it came about; only another instance of the course of true love! Perhaps they went down for a drink and fell in, the one endeavouring to save the other; mayhap they tried to drown their sorrows, and evade cruel parents and more cruel fate; did she push him in in fun, and throw herself after him in despair? We won't prosaically suppose that this sturdy little male, and more delicate little female, just stupidly tumbled over the edge in the dark. In the spring their warm fancies have stirred their blood, and they went to cool their heated imaginations in the crystal flood, before talking over the more practical question of a new nest in the little plantation alongside. At any rate there they are, with the troubles of shrew existence over, and their soft velvety little jackets limp and draggled, as they were drawn from the well. But for the little rat-tails they would be beautiful little creatures, with their sealskin coats and otterskin vests; despite the long, piggy-like snouts, that have doubtless helped their sharp April 15.

April 15. treble notes to cause long-nosed, keen-tongued termagants to go under the name of "shrews." Something of the mole they have in their soft fur, satiny to the touch, that offers no obstacle to their passage through the earth; in their digger limbs, stout and curved backwards; and in their long snouts, so remarkably porcine, and although more mobile and delicate, also doubtless for the same purpose as those of pig and mole, to root up the earth and moss. Why that vermiform tail? Can it be used at any time in search of insect food, to emulate the movements and appearance of an actual earthworm? The incisor teeth are long and sharp as the keenest lancets, the claws curved like reaping hooks and keen as needles, the lengthened sensitive whiskers no doubt acting as feelers, and aiding the very minute eyes of a dweller in darkness to discover the whereabouts of its insect prey. From the very light breasts we might have taken them for water-shrews, but for their untimely end in an evidently uncongenial element.

From our woodland well we have to-day procured another hair-eel, indeed we might call it a *thread eel*, so much slighter and paler it is than the former, while it also shows an amazing activity and restless energy, in marked contrast to the lethargic and sluggish ways of the former captive. These eels (*Gordius aquaticus* they are called) are now together, and when the new comer was introduced to its captive companion, it payed no attention to it whatever, but commenced a series of gyrations and movements, which at once showed the applicability of the name Gordius, which has been applied to them, from the Gordian knots into which they twist themselves. There seems considerable difference of opinion as to these curious animals, which are said to be at first parasitic

upon *insects*, a statement which demands most careful April 15.
elucidation ere we could come to acknowledge it as a fact. But the facts of natural history have long been so marvellous to mankind that nothing appears impossible, however improbable it may seem at first.

Rarely have we heard owls crying so clearly and persistently as of late in the Barcaldine woods—the sounds carrying across the tree-tops, and being re-echoed from the hill-side in the calm still night. As we passed recently under the trees, in the dark, they were calling to and answering one another with their pleasing *to-whoo*, which is anything but disagreeable to our ears. We stopped under the great beeches in which they were seated, but it did not at all prevent them calling freely to their companions; their tones, perhaps, more softened in the spring-time; for even the sage bird of Minerva stoops to woo, as well as to "to-whoo," when the leaves are breaking out, and the flowers are peeping through the grass.

Not alone on shore is the mild season showing itself in the advanced state of vegetation—many trees being fully six weeks more forward than they were last year at the same time—but on the fore shores, and even in deeper waters, the seaweeds are developing with great rapidity. To-day was somewhat cold and raw, but the seawater was quite mild, and as we walked about in a sheltered pond, we observed many sea-weeds that had actually advanced far towards maturity within a few weeks. Even *Chorda filum*, which dies away entirely in autumn —with many another marine annual—had advanced in some cases quite a foot of late, its long slippery cords waving in the surging water, and warning us of its early maturity along our coast this season. Many species of

April 15. sea weeds grow with almost miraculous rapidity, once their spores make an attachment; for the true sea-weeds have no roots properly so-called, and their removal from their attachment does not necessarily destroy the plants, except they are thus at the mercy of the elements, and are flung ashore. In this they resemble fungi, to which they are otherwise related—neither drawing nourishment so much from the ground to which they attach themselves as from the element in the midst of which they dwell. The fungi thus are supplied from the air, the sea-weeds from the water. The exception to this is the seawracks or *Zostera Marina*, whose fruit is wholly different from the ordinary algae, and whose plants may be set in the ground until they cover a large area, as is done in the French oyster parcs, which are frequently protected from sun and frost by this growth. During the cotton famine this was one of the numberless panaceas brought out to be the means of preventing all possible dearth in future! From their rapidity of growth, and the little attention required, it is strange that these marine vegetable productions have not been more utilised, more especially as sources of cheap gelatinous matter, whether for purposes of manufacture or the table.

The gulf stream, which was said to have been driven out of its course in the early part of the winter through the great gales in the Atlantic, must have returned to its normal course, bearing balmy currents into every Western sea-loch, and awakening the vegetable and animal world to early fructification.

April 22. We heard the young rooks crying unmistakably for food as we passed under the discordant rookery, rendered by no means more musical by this additional note. From

the vigour with which they asserted their claims to a share in the beneficent productions of the world threaded by the river they looked down upon through the interlaced twigs of their lofty perch, they must have been for some time alive to their mundane necessities; and we understand their voices have been actually heard for the last fortnight. The maternal solicitude is manifested by marvellous activity among the ploughed fields, in the which worms and grubs are so freely exposed. We only wish they would pay a visit to our "kale yard," where we would willingly permit them to monopolise the grubs that are showing an unmistakeable partiality for our greens. April 22.

Although the spring has been so mild, we do not see that the small birds have been deluded into commencing operations earlier. During a walk under the varied growths of a quiet planting, in which many a musical note was ringing loud and clear, the only indication of domestic arrangements was the foundation of the nest of a chaffinch but recently laid. Doubtless the site had been the source of much consideration and discussion, but whether through undue haste on the part of the lady, or want of judgment on the side of the gentleman, the place was badly chosen for such a usually careful little bird. It is the only one of the small birds that seems not to have had its numbers diminished by the former severe winter. The golden-crested wren, whose nests are now due among the thicker evergreens, has not appeared hereabout since the great frost, any more than the goldfinch. Under Ledaig shadows a wren has already prepared its charming retreat, but taper fingers indeed are required to tell whether ought but good intentions are to be found inside. Although the bulk of a wren's nest is very large for such a small bird, no bird conceals

April 22. it with more dexterity, or makes a more judicious use of its materials to imitate its surroundings. We have pulled gooseberries for hours in the close vicinity of one such, and even spent a lengthened period at the very bush itself, on which the moss-grown bough supported the happy home of a brood of Jenny Wrens, as unconscious of our presence as we were of theirs. They are very sensitive to the approach of any one especially if they touch it, and readily relinquish a nest unless the young have appeared.

Very different is the case with the bird we go to see this evening. It is not by approaching the foot of the tree, and discussing the various possible modes by which limbs, no longer as supple as of old, may reach a point of vantage, and peep into that quaint corner in which the ominous bird of night has arranged for the introduction of more young omens, that the steady sitter will be driven from the two almost circular white eggs beneath her. Again and again have we approached the spot, and occasionally poked convenient limbs of fallen monarchs over her head without disturbing her. Nor will she vacate the position although even seized upon the nest itself. Wise or otherwise, the droll looking owl has chosen this particular spot for her coming family, and means to see them out at any cost. A noble beach, with vast limbs stretching away from the bifurcated trunk, no longer solid at 12 feet from the ground. At least 12 feet in circumference it is, so that on no account can we grasp it, or grip our limbs around it; while the smooth, slippery bark of the beach gives no foothold, even for the horny, naked foot of the ragged birdnester. In vain we endeavour by various means to reach the fork, that younger limbs on older shoulders have already scrambled to; so at length

we are ignominiously obliged to throw a rope over an overhanging limb, and draw ourselves up sailor fashion, to pay our respects to Mrs Owl, and examine as to the preparations for the happiness and comfort of the coming family. April 22.

Talk of a snowball for a pillow as luxury! Here is nothing but the fork filled up with bits of stick, without a feather or a sprig of moss, nor even the spring of the twig nests of the lofty neighbouring rookery, which naturally yield to pressure, poised as they are. These are but a thin layer, set solid on the hard block, on which the young owlets will first learn how hard a world they are entering upon. The old mother flutters out, and flies straight away to the wooded knoll in the vicinity, while the cries of her consort echo through the gloaming from an opposite quarter, near the high old garden walls. The fork is so deep, and the limbs so thick and high, that the mother can sit all day quietly, as if it were "always afternoon," or rather evening. So we leave her at last to return to her silent vigil.

The limbs of the fallen giant silvers are thronged with coletits, with their restless movements and sharp whistle, to the entire exclusion of all other species of birds. No doubt the pugilistic little colony have monopolised the place and keep all intruders at bay.

The night is now down upon us, so we step inside the dwelling ere turning homeward. What is that, pussy? The window is opened to the urgent demand of the tyrant of the hearthrug, and she leaps in with a half-devoured rabbit; not by any means a single instance of late, for it is certain these creatures have not been slow to read the signs of the spring, but have long ago ushered troublesome, defenceless, but strangely persistent families

April 22 into the greening world. Wolves and wild cats disappear before man's enmity, they defy us and die, but the coney runs away, and lives to die another day, having meantime left a multifarious progeny to continue the struggle.

Like a candle in a fog, the moon is merely indicated in the heavens, and the night is not too dark to see the hedges, so we walk rapidly beneath the familiar trees, and through the silent woodland. Splash! splash! in the deep cut stream alongside, between the hedge and the high fence. We dash forward to see the water-kelpie, but it speeds off alongside, with straining limbs through the spattering stream; while we seek to cut off its retreat that we may see it bound out upon the road, where a turn in the stream permits its escape. It beats us by a few yards, and a fine roebuck springs over the hedge, and, crossing the road in the dim light like a flash, rushes headlong through the wood. A beautiful kelpie it is to see at any time, and we often peep at them with pleasure through the moonlit glades, as through the sunlit brushwood.

April 29. We had some heavy rain and bitter cold wind since last week, and for a time a general low tone of health in the district. This seems to be a very customary condition of things about this time of the year, and, in the South, is attributed usually to the altered temperature and states of body, produced by the spring. In the Highlands it is put somewhat differently in the proverbial native tongue, and the current science nnd philosophy may be thus translated from the pithy and imaginative Gaelic :—

The red rain of the leaves,
The black rain of the roots,

And the grey rain of May, April 29.
Worst three for men and brutes.

The black rain of the roots, according to our master of "Native Folk-Lore," is what we have been receiving—the rain that falls when the sap begins ascending, and the moisture is presumably gathered from the water that has been lying among the long-dormant, black, decayed vegetable matter that surrounds the roots of the varied vegetation. The red rain of the leaves, in the same way, is connected in the popular mind with the decay of the year in September, when the ground is strewn with the scattered foliage, and the freshness of the summer shower is superseded by that little touch of the cold hand of the dying verdure, which seems to tap our weakened vitality, to supply the life that is slipping through the uncovered twigs. Why the rain of May should be *grey* especially we do not know, but that it is an especially dangerous month in which to get wet is commonly acknowledged; no doubt from the uncertain condition of the temperature, with a blazing noon-day, preceded and followed by chilly hours at break of day and gloaming. However, there is no doubt truth in the saying that these three are the most unwholesome rains, and the last may refer to rain in the *grey* of May, that is in the morning or evening.

As "flukes" in sheep has lately attracted much anxious attention, it may be interesting to mention that those "hair-eels," to which we have recently referred, are an allied parasite to the fluke; and a capital observer tells me he has frequently met them among the wet grass in numbers. Now, as these creatures only leave their parasitic condition in order to breed, sheep feeding on the wet grass are naturally certain to contract this disease

April 29. by swallowing the young these excluded. This disease has never been common here, however, so far as we can learn; doubtless partly owing to the natural rapid drainage from the steep hills.

As in the animal world physical action continues to exert its normal functions in the outlying members, frequently a considerable period after the centres of life have been destroyed, just as a fly-wheel continues to revolve after the stoppage of the engine, so it is in a still greater degree in the vegetable world. The trunk of a small pine tree that we had hewn down and denuded of its branches in the winter, throwing it amid a heap of timber, now shows a gay adornment of little green tassels all over it. It cannot have received any nourishment except from the air, and yet its inherent vitality has used up its contained sap in a display of life of a normal character, in strange contrast to its surroundings. What a power an inherited and continued habit becomes!

The sun is shining brightly, it is a charming day and the tide is out, so we saunter down by the shore, net in hand. Our thoughts are most peaceful and amiable, but a dark shadow is thrown on the water before us, and a most discordant sound comes down upon our startled ears. Another shadow and a similar sound, and no longer are we alone. Those two gulls have been about all day and must be contemplating breeding, but why can't they leave us alone? We are not near their breeding-place, wherever it may be, and yet they continue to follow and insult us, as if they knew perfectly it was close time, and our gun tabooed. Some birds are like human beings in their meddlesome instincts, and among the worst of that class are the gulls and the curlews, both acting as shore police, and giving notice of suspicious

characters to all and sundry. We catch sight of a shoal April 29.
of little fish in the estuary of the stream, and approach to sweep it with our net; but they have seen us quite as soon, and have crossed like a flash. Back and forward they go, up and down with exact and regular movement and keen watchfulness—no regiment at the word of command could possibly execute a prompter movement. As for supposing this is done with any other faculty than sympathy and attention—the rapid, sympathetic communication of the movement—seems to us impossible; and yet the result is admirable. We recollect watching a mackerel seeking a victim from amid a shoal of silver eels, but the promptitude with which they always turned tail to it, manœuvre as he might, always baffled him. Not a straggler could he catch head first; and so, too, these little sticklebacks acted, under the presence of our moving shadow. They were one machine.

Slobbery stuff already! says Donald with disgust, as the shore begins to show signs of being covered with that soft, slippery, yellowish-brown seaweed which in summer covers all the ground, hides all the ocean treasures, fills all the dredge, and is generally what silver-weed is when it gets a hold of a park, a most particular and not to be extirpated nuisance. We pick up a bundle of the "slobbery stuff" which is so particularly obnoxious, and, taking it with us, toss it into a plate of fresh water, to allow it to expand and display itself. Gradually the shaggy tufts spread out, and these are followed by the floating filaments whose name is legion, until the small, dirty, slippery fragment fills the whole plate with its beautiful network of infinitely-divided filaments, showing what a really lovely object this common seaweed is, parasitic commonly, but seeming to grow freely anywhere

April 29. and everywhere near the shore. *Ectocarpus*, from the external fruit, it is called by those who frequently smother a fine form with a nomenclature, as the *ectocarpæ* smother the wonders of the deep.

MAY, 1880.

May 6. The cuckoo notes are ricochetting off the hillsides as we set out to view the wonders of the opening spring time. But first we will stroll round to our rough out-house, and examine the progress of this wonderful pendant creation annexed. Two days ago a light, fragile-looking cupola was observable attached to the rough bark and extending downward, like the top we cut off our morning egg, and inside this four cells, just where the tongue of a bell would be. Inside these cells several larvæ were concealed already when we first saw it. Next evening it was a pendant pigeon's egg, with a small hole in the end; and now this morning the larvæ-containing cells have extended downward like to a bell tongue, while a second bell-glass is curving around the inner one, a quarter of an inch apart. If you have any doubt as to what it is glance inside, and there is Mrs Hornet in black and gold, intently observing the golden rule of minding her own affairs, and doing with all her might what her proboscis finds to do. That accounts for the speed with which this single worker carries on her operations, simultaneously, of paper-making, house-building, cradle-construction, and maternity! The cells are beautifully made, and the tongue, or footstalk, with which they are attached to the roof of the building, must be both light and tough, as well as capable of extension, for to-day it is much longer than yesterday, and the cells are increasing

as room is made for them around. The paper, grey and porous, is evenly made and smoothly laid, the egg shape is strong and elegant, and the eggs or larvæ must be securely affixed with the glue that secures the whole structure, ere they would be able to lie so snugly in the open cells, head downwards to the world. May 6.

Here is another about the size of a pigeon's egg, double encased already. It had been too roughly handled by the strong north breeze, and was swirled about in the containing barrel until it broke away from its attachment, and so we watch its developing eggs under our own immediate eyes. Only the one active mother seems to be about the work, nor can it have any assistance, we suspect, until its young come forth to lend their aid in the creation of those wonderfully perfect spheres that contain the whole patriarchal community at the end of the season.

Leaving her busily at work within a few inches of where our eyes have been observing her movements, we turn upwards to the green clad copeswood of the hillside, and skirt the bare shoulder of the fashionably-clad hill. Here we turn, and, ere we seek the summit, glance back over the exquisite panorama of sea and shore and rolling country spread away beneath us, and dipping into the distant blue. Loch Creran from end to end slips at last from our gaze as it trips round the edge of Eriska into Loch Linnhe. The green island of Lismore, ever fresh and fertile, lies placidly on the peaceful sea, with Morven and Kingairloch blinking at us through the heat-haze of the mid-day. We both wax sentimental at the view that we should like to grasp and keep, and suggest mansions just where we stand, to look for ever over this

"Land of just and old renown."

May 6. We continue over the mossy and heathery sward, in which the bright green of the tufted grass, like imitation Tussock, is besprinkling the duller and still unprogressive surrounding herbage. But the dry stems of the burnt heather make not cheerful walking, and we find ourselves jumping over the hags of the moor in an aimless fashion, under the sparkle of the sunlight. Towards the stream-threaded shoulder of the sloping plateau we direct our steps, where the lady birches are making their *debut*, in the daintiest of green drapery, still scanty as the robes in a London gathering. Little protection they yet yield from the sun, but their vicinage is ever elegant and cheerful, and we follow for a time the romping streamlet as it dances underneath. We have left the flowers of the cress on the moor, and now the banks are gay with groups of primroses, and the wood anemone here and there throws its pale flowers against some dark tree trunk. But to-day we are lotus-eaters; why not drink in the sunshine that has come so seldom for a twelvemonth? So we sit down amid the little, beautiful, but, in Scotland, ever scentless wood-violets and the sorrel flowers, with their quaint trefoil leaves mostly still unspread. These so common flowers are among the most exquisite productions of the woodlands, with their tender cups so delicately veined with purple, each fit to be a boudoir for a fairy. Curious fluttering shadows, like four-leaved clovers, are thrown in the bottom of the little stream, and we watch with interest the evolutions of the "blind fiddlers" or "shoemakers" of our youth, as they so lightly dance, or rather skate, over the surface of the water. Sandhoppers, like those of the seashore, are actively engaged all about, and bury themselves with amazing energy when disturbed; but what are

these bits of stick that seem to be wriggling along at the bottom of the water? Lift them up and you will see. What angler does not know the death-dealing caddis-worm, so destructive as a bait! Strange creatures they are, but, like many another wonder, are so common in the world that we forget the marvellous creation on account of the very bounty of the Creator. May 6.

There it comes!—sleek and grey and cold-looking, it comes shivering forth from its living death to its short but gay existence in the sunshine; for are not these caddis-worms the parents, or progenitors, or children, or resting-place in their transmigration of the caddis-flies (*Trichoptera*)—little four-winged creatures that most of us only note to brush away? Strange larvæ these are, that coat themselves with all sorts of substances, and prepare for a vivid existence in the upper air by a dull, cold, sluggish one in the streamlet's bottom.

We now scramble through the thicker wood and under larger branches, with a peep at a flood of lovely white blossoms on a leafless blackthorn. You are late at the ball, my beauty! for most of your sisters have thrown off their gay wedding dresses already. A sharp whistle fails to bring an owl from the gnarled trunks on the overhanging cliffs, and a scramble upwards only takes us amid luxuriant moss, and dying lichens in multitudes, that had increased and multiplied freely during the former cold, wet seasons. Now their time has come, and drouth and sunshine seem to disagree with their constitutions.

A wheatear is whistling gaily from a bough, answered merrily from a neighbouring knoll, and we are listening, pleased, as we leap the little remaining bog near the perched boulder. Quietly! Approach not with rude Republican indifference the cradle of the mighty! We

May 6. are almost amid the nursery of the Royal children; for here are indeed the Royal ferns coming slowly forth, and ignorant as yet of the change of Ministry! Each royal scion looks at present like a bishop's staff, curled up as they are like the head of the pastoral crozier. But they are strong and vigorous, and may yet lay claim to pre-eminence and assert their birth, when, like Saul among the people, they are a head and shoulders above the surrounding bracken.

> "There's a flower that shall be mine,
> 'Tis the little Celandine,"

sings the great Lakest, and so, as we see them peeping up through the herbage in numbers

> "Modest, yet withal an elf,
> Bold, and lavish of thyself,"

we cannot but acknowledge it as a welcome vision. The wild rowan throws its flowers over the face of the cliffs as we scramble downward, and the pathway is alive with those myriad active ants, whose story "Mark Twain" has told so pitilessly.

May 13. The hopes of the West are high over an anticipated good herring fishing—"better than any for the last forty years," says an "ancient" authority, seeing we have had such an exceptionally fine March. So as we toiled at the oar over the calm clear water of Loch Linnhe, and saw the flocks of gulls and dookers dotting the sea around and about us, we asked ourselves if this were not the fore-runner of the anticipated herring shoals? That herring were about was clear enough, for gulls above to gobble, and dookers diving underneath to drive the fish to the

surface, is always a sure sign of fish. Indeed, this is one May 13.
of the principal reasons alleged for the Sea Birds Preservation Act, that their destruction would seriously injure the fishing industry, by depriving the fishermen of their surest indication of the presence of their prey.

"They will take two days to get into our bay," says the keenest and ablest fisherman on the coast, as he casts a rapid glance at their position; but alas! for that terrible 28th December, for the fragments of their boats have gone to light the winter's fire. We hope the West may not suffer the great sea harvest to escape through want of craft to capture them, but manfully prepare to make the most of the appliances within their reach.

We left the road and wandered under the boughs of an evergreen plantation to see what progress the feathered world was making. That the lapwings had young already was evident enough from their desperate anxiety about their brats, and the peculiarly irritating manner of expressing it. The little creatures were no doubt skulking here and there in the hollows of the furrows, while the mothers screeched "Tuck in your tail;" "run back a little;" "keep quiet, my darling," to their extremely active and dexterous offspring. Ha! a bundle of feathers, and one long leg! Feathers black and white, surely a magpie. No, these birds are very scarce here, and too knowing to be in such a mess. The foot has no opposing toe, so it is not a bird of the woods, and the limb is long. Yes; it can only be one of these unhappy matrons, that has doubtless fallen a prey to the spoiler in seeking to save its young. A fox was shot last week by the keeper, so they are about, and this must be some of their work. We go on, peeping with schoolboy pleasure into the cosy little nest of the shilfa, the eggs evidently nearly hatched,

May 13. as the gentle little mother sits so close; we could easily have captured her as she sat. Here, too, is another elegant little nest; that of the rose linty, (*Linaria minor*) so well-known in Scotland, with its eggs so beautifully marked that they always convey a thrill of pleasure through us at the very sight. Overhead the boughs are thick, but the trees are low, and so we see to the topmost branches. What! that looking at us? A wood pigeon within a few yards above us! So we look, for a little, half amused at the usually shy bird, which returns the compliment with apparent curiosity, but without alarm. At last we chuck a pebble at it, to see if it is not glued to the bough; but it pays no attention. Another, more particular, causes first one and then a second pigeon to burst forth, and fly further on. Two youngsters evidently, full fledged and flying strong already, from the nest above us. We proceed, often bent double under the boughs, until we find ourselves suddenly confronted by another quaint-looking creature on a bough of a spruce. Silent, impassive, immoveable it sits, with the evident hope that we will not perceive it. We are near enough to note every palpitation of the poor little breast, speckled with brown and yellow, the yellow edges of the mandibles, and the general curled-up look of a schoolboy as he awaits his expected caning. A young thrush already, and yet although we have explored vast stretches of woodland, in which we ought, in the ordinary course elsewhere, to have met with scores of nests of thrush and blackbird, we have not hitherto met either. There is a marked dearth of birds, excepting one or two varieties, this year as last, so that the fatal winter of 1878-79 has not yet been made up for.

Along the sandy shore we walk until we come to the

nest of the oyster-catcher, with its three large richly- May 13.
coloured eggs. They are usually spoken of as having *no nest*, but those we see here are not without an attempt at *making*, in the shape of an excavation in the sandy gravel, with a few straws in it, but in both instances it is markedly adorned with little bits of white shells, evidently brought there for that purpose, for none are visible immediately round about. Whether these were merely rude materials for nest making, or whether it was an attempt at adornment on the part of the bird, would be impossible to say. Still, they could not be considered of any use as a material, being no softer and less rounded than the gravel; and, except for ornamental purposes, they could only have been brought there either with an idea of concealment or as a guide to the nest for the bird itself amid the surrounding gravel. We have a love of adornment and display in many birds, such as the magpie and the jackdaw, and most notably in the case of the bower bird of Australia, which has reached the same stage of æsthetic culture as a Red Indian Chief!

We are now under loftier evergreen pines, with the pigeons cooing, the tits whistling, and little other bird life about. As we look up into the thick spruce overhead we meet another pair of eyes, with a Lord Burleigh look of greater wisdom than any bird ever had! What can you be thinking about, to sit in broad daylight on the forest boughs, and blink solemnly at the passing world on the road so far below. As the grey owl's wings flap silently in her passage through the trees, we are fired with the enthusiasm of the days that are gone, and girding our loins ascend the tree. The nest proves to be well built and "domed." No owl ever put together such a structure. There is nothing whatever inside, although

May 13. the nest is newly constructed, so Mrs Owl has some wisdom after all, and apparently meditates taking possession of the nest of a squirrel, not yet completed for these creatures, who love comfort and a cosy corner, but sufficiently so for the philosophic, comfort-scorning Bird of Minerva.

Right in front of us stand the huge upturned roots of a fallen tree, with the connecting earth. Into this we peer, with many memories crowding upon us as we do so; and sure enough are rewarded by a glimpse of a little family circle, all in fresh spring suits, in a carelessly made but carefully-concealed nest. A family of redbreasts, ready for flight in a day or two, and meantime patiently, or perhaps very impatiently, awaiting the parental return with that constantly demanded "snack," that healthy youngsters of all kinds and degrees never fail to be ready for.

May 20. A scamper through the islands of Loch Linnhe is the proposal for the day. Thereupon, the sportsmen of the party muster rifles for the possible seals, and fowling-pieces for otters or peregrine falcons; for all other birds, except the *raptores*, are tabooed at nesting time. The day is still, and calm, and bright, "a bridal of the earth and sky," as we settle down to our four oars, and pull steadily down the loch. As the "dockens" are choking the land under the warm genial weather, so the "weeds of the sea" are now threatening to fill up our loch with their luxuriant growth, if they proceed as they have begun.

But we are intent upon other affairs, and pay little attention to the great marine growth, as we proceed downwards in order to thread the intricate passage of the

Doirlinn, as the southern strait between Eriska and the mainland is called. This is dry at low water, but the tide has shortly turned, and so we determined to endeavour to slip through, and thus save the longer route by the northern arm. May 20.

The sandmartens are very busy in the bright morning, swooping in and out of their burrows on the face of the sand cliff, where they have such a nice, snug, but limited colony. Some time ago they attempted to form a colony on a low sand bank by the Fearlochan Burn, but a high tide drowned them out, and destroyed the embryo community, and now they are restricted to this small bank.

Have you seen the sea swallows yet? some one asks; but it is answered in the negative, and the heavy flight of some small gulls, in the distance, forbid them being mistaken for the graceful and vociferous terns. "Yet this is the day they should be here, and I have never seen them fail to a day," says the observant woodsman; or if I did not see them during the day, they would be sure to arrive during the night, and be there first thing in the morning." Well, we did not see them at all this day, but next morning one of our companions, who had been early afoot seaward, came to tell us he had seen them about their favourite haunt, true to their time. This seems a marvellous instinct, and is quite corroborated by the testimony of independent and thoroughly reliable observers. Why should they come to a day, regardless of the weather or the character of the season, and by what meteorological or physical calendar do they proceed?

But, while we are chatting, we have reached the Black Isle, and run our boat on the beach. We tumble ashore, and our first sight as we pass inland is the black mass on the top of the ravens' nest, where the keeper ruthlessly

May 20. slaughtered the young birds as they lay: ay, and the mother too, on the top of them. For are not ravens the deadly foes alike of young game birds and the weakly lambs of the farmers? so no grace is shown to them, but war to the knife! Aha! you are too late again. The noble peregrine has not lived so long in the midst of unsympathetic humanity without a good share of caution and observation, as well as cunning; and so the bulging bosom, and tapering wings and tail, are soaring off amidst the scattering goosanders and please-don't-touch-me gulls, long ere you are under the Falcon cliff. Our eyes are open, and we scan sea and shore for all and sundry that may interest or amuse. Still no gull has yet built its nest upon rock or heather knoll. Whisk! and out comes a little heather linty from the edge of the cliff, and we peep into its grass-lined nursery to see four dainty little eggs of lovely form and marking.

The edge of the cliff and the top of the heather-tufted knowe are searched in vain, while the gun of the now distant sealer re-echoes across the water, and startles the ducks and the grey crows from their rocky haunts. What ducks are those that have come from that deep cavern under the huge boulder? We stoop and peep in, only to see dark possibilities, but a younger head and shoulders are inserted further, and we soon clear away sufficient from the entrance to enable us to enjoy the wondrous home of the sheldrake or burrow-duck. What eggs to be sure! don't they make your mouth water! For size and beauty of form pre-eminent among ducks' eggs, as the birds themselves are far away pre-eminent amongst our British ducks, either for beauty or size. Indeed, they are more like geese. No wonder that in some parts they are supplied with burrows, and semi-domesticated, in order that

the splendid eggs may be readily procured, as is done on a large scale in Denmark. The nest is made from the down of the bird's own breast, as in the case of the eider, with which duck its down may well compare. We pass another haunt of the "burrow duck" in a long, rocky passage, quite unapproachable, and then proceed to the boat for a visit to the farther islets. May 20.

A long row of an hour, and we are within reach of the voices of the inhabitants, for it is clear that the gulls have arrived here at anyrate. A fine beach, with lots of ring plovers speeding over it, but they have not yet apparently begun nesting. We skirt the cliffs, and ramble through the heather, and at last come plump upon the large collection of withered grass, coiled around, that forms the nest of the great black-backed gull. Now we have little trouble to find others, so it is clear they are nesting here, with the richly-coloured eggs in numbers all around. Three is the prevailing number laid by the various species of gulls, and there is much similarity in the general tone and appearance of the eggs of these different sea-birds. The oyster catchers, too, are nesting among them in numbers, and we now understand how they are so numerous on our loch, when they can nest in such freedom on these sandy and gravelly beaches.

We soon tire of the sameness and facility of discovery of the nests, and get disgusted at the stupidity of the builders, whose eggs are harried regularly by the neighbouring eggers; for gulls' eggs are in much repute for the table in some districts, and are frequently sold as high as plovers are even yet, despite protection. So, leaving the shore, we wander along the face of the slanting rock, up which we scramble. Something darts out from under the heather, and we at last catch a glimpse of a lizard

May 20. lying on the brown rock, and endeavouring to escape observation. Our hands are full, or occupied with our safety, so we cautiously place a toe upon its head, when the tail is immediately sacrificed by the poor little thing. Our punch had killed it, but the tail went off like a worm, displaying the most remarkable activity, until we transferred both it and its former owner to our pocket. It proved to be the little yellow-breasted viviperous lizard, that brings forth its young alive! Now, how could this little creature, as well as a toad met with during the day, have reached this little islet? The spawn of the one might be supposed to be ocean-carried, but how came the young of the other?

The smaller black-backed gulls, in a flight, bid us good-by as we launch our boat and turn her bow for our long row homeward in the evening calm.

May 27. Many species of birds there are in which the male bird assists his consorts in the labours of incubation, as instance the mavis himself, although he prefers to feed her and serenade her from some neighbouring bough; but we have had in our vicinity a somewhat remarkable instance of the *maternal* instinct in a male bird, the bird in question being no less than a gander. For some weeks it brooded most assiduously, and at length became so emaciated with its misdirected cares that it was found necessary to take the foolish bird and tie it up!

We were crossing a little stone bridge over a stream lately, and stopped to peep over at the burn trout, as we ever love to do—now as they sported in the shallows, or darted quick as thought under the sheltering stones the moment a passing shadow fell upon the water. After we had watched them for a time we stepped down under

the bridge, where the shade is always so pleasant beside the rippling water, and there we saw a series of black masses all the way under the arch. These turned out to be multitudes of elvers, or young eels, that had evidently come there for shelter, away from the prying eyes of herons, and indeed pretty well secured from danger. They had all disappeared a couple of days thereafter, and had no doubt gone up the stream, as we used to see them throng up the mill-lade in our boyhood in infinite numbers. May 27.

Have you seen the mountain blackbirds this year? is demanded of a keen young naturalist by a mature observer. What are they? we ask, for the name was novel. Even the description of the blackbird with a white breast only suggested the water ousel to our mind, but this was a very different bird. We at last discovered that the bird in question was the ring ousel, somewhat like the water ousel, but with the long tail of the blackbird; so, as we were not familiar with the bird in its haunts, we determined to seek it in its home about the "Scaur," where it had been seen. Strange to say, we had never been to the Scaur, that noble rock that looks so picturesque at the head of the green slope, with tufts of mountain ash like lyart locks about its brow. Up by the verdure-clad stream we clamber, the remains of the once extensive natural wooding that coated all the hills about, so that when cattle wandered into "the wood" their owners never knew where they would emerge, nor ever sought to find them on the boulder-clad and gully-threaded hillsides. From below, one could scarce believe that the ground was so broken, many a goodly tree never lifting its head above the heather-fringed edge of the gulch, but dwelling for ever among the beautifully green ferns of the sloping or steepy banks. Here is a waterfall quite fifty feet in

May 27. height, and yet it is "an unconsidered trifle" amid the surrounding beauty, although it pitches so charmingly through the circling tree tops into the well-cupped pool.

We break away, and strike up the green slope to the foot of the bold Scaur, and as we do so hear the peculiar, clear, tremulous note of the ousel we are seeking amid a distant clump of green. But the Scaur is more especially its peculiar habitat, so we skirt the foot and spirally ascend to the summit; but not a note or feather is about the cliff, save the broken chatter of the stonechat or the fugitive head of a pipit. Too desperate war is waged now against birds of prey, or else we would have hawks building in such a suitable locality. But are not the two neighbouring keepers bound to-morrow on a general tour of destruction among the smaller fry, the sparrow-hawks and the kestrels, and how can they expect to be left in peace in such a spot? Yet time was when nobler plunderers than sparrow-hawk or kestrel flung their shadow from the cliff. Is the story not told of a mare and foal turned out to graze here that found their way to the green summit of the Scaur. An eagle, seeing its advantage, boldly and dexterously continued to swoop and flash its wings at the heads of mother and foal, until it had gradually edged the timid pair to the very verge of the precipice, over which they would have been assuredly swept but for the arrival of human assistance. The daring and skill of the eagle is so noted, and everything that appertains to animal intelligence is so interesting, that we make no scruple to communicate the following story, often told and vouched for by a late well-known keeper. He was out looking after his deer, when he saw a number of hinds and young fawns together on the hillside, evidently in some trepidation. Over them was hovering a large eagle, taking care-

ful note of the situation. As the story goes, it thereupon May 27.
flew to a neighbouring water, and thoroughly soaked itself, splashing vigorously. This done, it now rolled itself in the sand, over and over, until well coated. Thus prepared, it started slowly for the scene of its labours, flying carefully, so as not to free itself of the sand. Arrived over where the deer still were, it soon attracted their attention, and, this secured, it commenced vigorously shaking its wings, so as to shower the sand into the uplifted eyes of the poor animals. The sand was quickly followed by the swoop of the eagle, which fastened its talons in the head of a fawn, to which it stuck tenaciously in its flight with the herd, and although the keeper then ran also with the utmost speed, he was too late, as the pertinacious bird had secured its prey! As we glance from the summit of the Scaur over land and sea, smiling between the showers, we feel that for once we should like "a loan" of a pair of wings to float over the lovely scene.

But we have forgotten the ousels, with the royal bird in our mind, so we skirt the Scaur again towards the green patches on the hillside, glancing up at the fresh leaves of the "last of the junipers" on the face of the rock, for the cattle have eaten up all its brethren round about, and, like the last rose of summer, it is left blooming alone, simply in this case because no animal can reach it. We arrive at the patch of green to find it too to be the edge of a beautiful gully, with ivy-crowned cliffs, and a gay, open waterfall all to itself. But no characteristic, broken notes reach us. A little further on—what is that—there it is again—we sink on the moss of the hillside, and soon catch sight of a bobbing tail, and ere long a lovely head rises over the knoll, under the foliage before us, and shows the timid, shy bird for a moment or two, ere it

May 27. starts with its peculiar skulking flight to join its companion in that miniature gully with the seedling birches. So the ring ousels are with us as usual, and we have enjoyed to the full the visit to their haunts on the breezy, sunny summit of the bold, outstanding Scaur. Our way down, too, is as varied as we can wish, and, if we select the route under the natural birches, is it not because the sky looks more beautiful above their tender green leaves, and the earth more pleasant under their dainty branchlets? Stop! here is the nest of a wren, so cosily hidden among the moss of the upturned tree above us. It is unused, perhaps never used, for wrens are fitful and peculiar, and build often several nests ere they incubate. We draw it slowly from its place, and there is a little spherical wasps' nest crushed by our inserted finger! Opinions differ. No doubt Mrs. Wasp will wish she had been at home; we are sincerely thankful she was not, and are equally satisfied that it was better for both parties.

JUNE, 1880.

June 3. We are enjoying almost Swiss weather. The nights for some time have been nearly perfection, and for the last month, in the absence of the moon, and when free from rain, a beautiful auroral light has radiated steadily from behind the hills to the north. This has suffused a very tender radiance over the woods and the waters, and rendered the nights as clear and pleasant as during clear full moon.

As we stood at the door of our "Cottage by the Sea" the other evening, and looked out upon the loch, silvered under the light, with the rich, dark purple background of hills as clearly defined as if cut out of cardboard, one might well have been in imagination by the shores of

placid Leman, but for the absolute stillness of the night. June, 3.
No sound of endless insect life, or chirp of numberless cicadas breaks upon the ear, and we might have been looking upon a Doré world in a land of dreams.

A few hundred yards in front of us is a little cairn island, and, just beyond, a row of large boulders leads out into the water. Suddenly the stillness is broken by a distant flop and splash, as a great seal rolls off into the water, and spatters around. This is a great haunt of seals just at present, and although it is in fine range for rifle practice, we cannot bring ourselves to drive away our interesting friends, unless we had a fair certainty of supplying ourselves with a stock of good lubricating oil, without causing any orphans to be thrown upon the cold world of Loch Creran.

On Sunday last, at mid-day, the tide was well up to our door, and we were looking dreamily out at the goosanders diving in the stream before us. They knew quite well it was Sunday—that is, they knew it was a day they were free from molestation, and we were wondering what series of observations they made to arrive at a knowledge of the day, or whether they simply judged from the day itself, on which no labourers went afield, and every one looked occupied with affairs too important to admit the inferior animals into the calculation! Our cogitations were suddenly broken by the spattering of some large animal in the water before us, and this was followed by the pitching of another close alongside. Two seals, bent upon a frolic, and regardless of our close vicinity, were sporting like schoolboys in the water. Over and over they went, leaping more than half out of the water, curving their graceful necks, and dashing and splashing all about. Sometimes they glanced at us with their soft brown eyes, but seemed to pay no particular

June, 3. attention otherwise to our presence. It was altogether a beautiful sight, and we watched them long, never having seen them sporting so gaily in their native haunts; indeed, they were as easily observed as if they were in Rothesay Aquarium. A few evenings ago we counted eight in a row lying on the boulders above alluded to, a great sea-lion-looking fellow lying at full length on the principal stone. Very merry they were, too, evidently a number of young ones being with the herd, and these last were constantly on the move, rolling off the stones into the water, while their more sedate companions lay placidly on the rocks.

We have before mentioned the occasional presence of a fox in the district, despite the war of extermination waged alike by keepers and shepherds; and when we consider that the guardians of the sheep know every crevice on the hillside into which a sheep might wander or a sickly lamb stray, the "wonder grows" how any of the red fellows can ever escape the rigid and never-halting search. Yet the other day three foxes were killed on Dallachulish Hill—a beautiful, sloping, grassy bank on a great scale, leading down to the inner Loch Creran. This is a very favourite haunt of the mountain hares, so perhaps they had managed to exist without levying any great contributions on either the grouse or the flocks, and thus eluded the particular observation of the guardians of either one or other.

As a remarkable instance of our cozy corner of the world being early in the field with the fruits of the season, we may mention that a few strawberries were gathered, well grown and quite ripe, on the 29th of May, at Ledaig. By now they are arriving in steadily-increasing quantities in the little garden under the famous rock of Ledaig.

Good habitable farm-houses, with suitable eaves, are June 3.
not very prevalent in Benderloch, so the swallows are sadly at a loss for satisfactory corners in which to build their nests. An addition to our habitation had been left without a pane in a porch window, and through this the graceful birds have found their familiar way. They perched upon the rafters all night, and waited some days, skimming around and billing and cooing meantime, until they had decided it was safe to commence operations. So they have started and laid the foundation, seeing the room is yet unoccupied and unfinished inside. When we enter the place the birds are a little unsettled, as they have to skim out and in within a foot or two of our heads, but they don't seem at all alarmed, and even the presence of a workman all day did not cause them to desist. Now they have called in their friends, and three nests are in course of formation.

There is a marked absence of squirrels in the woods just now. We have scarcely seen one for weeks, and yet they are all about and busy. Their nests are quite a feature among the trees, some spruce trees having two of them, one a little way over the other. On one small tree we found a nest of a thrush, and close by the half-finished nest of a squirrel. The open bower framework had been formed by skillfully curling the stripped twigs of the larch into the desired shape, to be afterwards interlaced and made comfortable by the gathered moss. When completed, they look like great close bundles of moss, with no entry visible; but in their skeleton condition the design of the structure is clearly understood. In shape it resembled a bassinet, with a movable sunshade drawn well over it.

We have had a visit on the Selma side of Benderloch

June 3. from both herring and mackerel, but as yet they are small, although fairly good. The weather is such that no doubt we will participate in the general good fishing that is to be had around our whole coast. It seems to be fairly well established that herring are seldom absent from our coasts during any summer, but that heavy weather or cold winds drive them to deeper waters, while sunshine and calm weather enable them to approach the shore without fear, and induce them to rise nearer the surface.

June 10. We crossed under the trees of the Heronry this forenoon, and from the untidy condition of the greensward, beneath the stately larches on which their nests are perched, no oue could doubt that large broods of long-legged youngsters had been successfully introduced into Benderloch society. These nests are very large accumulations of sticks on the topmost boughs of the larches, the stem of the trees on which they are perched being in almost every case clear of branches until close to the top. As we stand and look carefully upward, for fear of unsavoury greetings from the birds, one or two rise, and with ungainly trepidation stretch away towards the coast, or circle around in watchful anxiety. Here one comes around again, and, drawing in the limbs, which in flying are stuck out straight behind, it drops them straight below, and sinks towards the huge nest with the clumsy inelegance of a boy on stilts for the first time. A most ridiculous spectacle it presented, and as one after another followed its example, and returned with an awkward scrambling and wing flapping to its tree-top, we came to the conclusion that those herons that were satisfied to build upon the rocks of lonely islets and unfrequented shores, were in a much more natural position than their compatriots

among the boughs. A lesson in "deportment and the use of the legs" would be of real value to these birds, who, even when thigh deep in their watery habitats, look uncomfortably like a schoolboy stuck in a stream, with his trousers pulled up as far as they will go, and who is afraid to take another step for fear of wetting them. June 10.

The oyster-catcher's nest is empty at last, so we trust the young are out and away, and we once more study the surroundings of the scooped out depository of their eggs. Only one pair of birds frequents this spit of land, and only one nest has been filled and the contents hatched out, but yet all around there are other similar scooped-out places in the gravel, some of them also with bits of white shell to adorn, or mark, or mask the nest. It is therefore quite clear that these birds have carefully prepared a number of decoys by which to deceive the searcher and mislead him into the belief that he has found out the empty nest. At any rate, it is an interesting fact that so many imitation nests should have been made, and shows an amount of forethought and consideration we should not have anticipated even from such a sharp-looking bird as the oyster-catcher. In connection with our observation as to the shells evidently carefully placed in these nests, it may be a clue to their purpose to quote an extract from "Nordenskjold," to which our attention has been called by a correspondent. He says that "when the eider duck has only one or two eggs in its nest, it places a shell of the *buccineum glaciale* beside it," in Spitzbergen. At first all birds, as a rule, are extremely careful of their nests, and move about them most shrewdly, so as not to be discovered; but once the young have made their appearance, or are close upon hatching, the bird will stick by them tenaciously.

June 10. A wren is most difficult to watch at first, when it commences the labours of incubation. A friend lately found a nest of the common wren in his garden, and just inserted his finger, but the bird deserted it, and shortly afterwards built another; in this there were no eggs laid for a week, but now there are some three or four. What was the reason for this? Did the bird really leave the nest empty for that time in order to see if it were discovered or meddled with, or is it to be accounted for by the statement recently made, that the wren will build sometimes more than one nest, even occasionally before they have found a mate. The willow wren (Sylvia) does not build the beautifully fashioned cradle of the Troglodytes, but chooses some little nook under a tuft, and coils the dry grass into a bed. In passing the rotten stump of a tree a few days ago, we saw a little willow wren pop into a decayed portion, and, approaching, could readily have seized it, and only after repeated vigorous knockings at the opposite side of the stump could we dislodge it. On peeping in, we met the upturned gapes of the little youngsters, by which the mother had stuck so bravely. In the same way nests are always most readily discovered when the eggs are near hatching, the poor bird sits so closely.

To-day we came suddenly upon a sandpiper, flip, flipping away, with that peculiar sandpipery skipping flight. We knew at once there must be a nest close by, and set about to find it; for the eggs are especially beautiful, in their rich brown markings on a buff ground. We looked under every tuft about the little sandy depression, and at length found it in a snug retreat. Lifting one of the lovely eggs we instantly discovered the cause of its close sitting, for the unmistakable sandpiper chirp came feebly

through the shaky covering, and it was evident that a few hours more would complete that metamorphosis that is no less wonderful because it is of every day and every moment's occurrence. June 10.

We have frequently removed one or two eggs from a nest, and found the number renewed by the bird if in the first stages of the incubation; and we never doubted that this was a fresh start taken in order to replace the lost. The pertinent question has been asked us, however, if the total of the eggs thus laid was ever greater than the bird might have laid at anyrate? our questioner distinctly denying the likelihood of such a thing. We are of opinion that more were indeed laid than would otherwise have been, and it is well known that when gulls' nests are robbed they will lay a second or even a third sitting of eggs, generally noted by being of smaller size and lighter colouring. That some birds will lay no more than their first complement is, however, true; and the oyster-catcher seems to be of this number, as we recently saw flocks of them gathering together again, as if they had given over the intention of raising a brood, their nests having been ruthlessly robbed on the neighbouring islets. In the event of such a second sitting immediately following the first, or a first sitting being supplemented, what would have become of the embryo eggs had no further call been made upon the bird?

As we came along by a six foot wire fence we heard the regular dash of something against the wires, and could not think what the object was until we found a black cow standing close along side and head to it. Her movements were peculiar, and were soon explained. The field beyond was rye-grass, and a rich strip of succulent grass led up inside the fence. The cow was evidently well acquain-

June 10. ted with wire fences, and at any rate, was quite an adept at their management; she wanted her head through, but was too wise to dash her head or horns at it, as most cows would have done. Bending her head sideways she slipped her nose and neck through first, the horns chicking on the wires as they pressed through, and in a similar manner she came out, with the dexterity of a boy. She thus ate all the way up inside the fence, in and out between each stake, with the utmost facility and confidence; evidently the only one of the lot who had made use of the inside of her head, in place of the outside, to circumvent the trying obstacles. We watched her for some time with considerable amusement, as she progressed with the assured self-possession bestowed by superior knowledge.

June 17. On the night of the 14th there was a very remarkable appearance in the sky. The clouds in streams converged to a point due north, and, although spread over thirty degrees on either side of the zenith, converged equally to a point due south. In shape they were like the outside of the lith of an orange. We at once predicted a stiff breeze from the north, and sure enough Tuesday, although very hot in the sun, was blowing a gale from due north all day. This has been a most remarkable season for north and east dry winds, and for two months and a half there has been no day in which we could scan the sea-bottom through the tranquil water. Whether owing to this continued disturbed condition of the sea or no, the skates, to which we are annually accustomed to look forward at this season as visitors for spawning purposes to certain areas of sea bottom, do not yet appear

to have come, although their usual time is from the mid- June, 17.
dle of April until July.

The other night we were sitting at our writing table, near to the small hours, when we heard a loud droning sound about our ears that at last induced us to look up, and ultimately get up, to expel the noisy intruder. We thought it was a large beetle from the sound, but it proved to be only a large night-hawk moth. Sitting down again to our labours we were not long at peace, for soon a very peculiar sound assailed our ears, as something circled round and about them. Thinking it was merely some other moth that had entered our partially open window or door from the outer night, we paid no attention for some time, but at length the peculiarity of the whirr, as it came round, forced us to give it more special heed. What was our astonishment to find a very large creature circling about, which we concluded at first was one of our swallow friends that had been belated! A more careful look, however, soon showed that our visitor was one of the very large bats * we had been observing

* THE LONG-EARED BAT.

(To the Editor of the Evening Times, 1880.)

SIR,—The long-eared bat *(Plecotus Auritus)* is not uncommon in Scotland, and this year 1880 it has made its appearance in several districts. Your West Highland correspondent so lucidly described it in his notes of June 17 that it is only necessary for me to give the dimensions of one that was captured on Devonvale Grounds, Tillicoultry, by the "banks of the clear winding Devon." It had evidently indulged too freely in May flies, and was found asleep on the ground. The wings when extended measured 10¼ inches, the length of the ears 1⅜ inches, with smaller ears within them ⅝ of an inch in length, from the tip of the ears to the point of the tail 4¼ inches, and its weight about half an ounce.—I am, &c.,

NATURA.

June 17. during the evening preying on the gnats that were so troublesome ere we withdrew inside. These had attracted our attention by their peculiar expanse of wing and large appearance in their flight, and we accepted the proffered opportunity for examination with due thankfulness. Our home is not an ancestral hall of unlimited dimensions, yet we nearly despaired of catching it alive, so dexterously did it elude us when it was on the wing, and so well did it curl up behind the smallest projection once it took to its feet, or rather its claws. Secured at length, and placed under a tumbler for examination, we were surprised at the gentle appearance and character of the creature, and we could not for a moment suppose it a common bat with its mousy temperament and appearance, for its *card* of identification was as good as printed in its magnificent ears. Auritus, it is called, and most justly, as these appendages are about as long as the creature itself, and of a texture of the most indescribable delicacy and beauty. Just fancy bits of goldbeaters' skin full of muscles and nerves, so as to be completely under the control of the little creature. Not only can it "wag its left ear," but it can curl up, and arrange, and expand, or contract either one or another in a most startling manner. Sometimes if afraid of them being injured it would corrugate them down one side and curl them up like a leaf of greens, then suddenly expand them to their full length, finely veined and quite transparent. Its wings, when folded up under its limbs, were almost invisible, so delicate was the transparent membrane of which they were composed. Its fur was long and soft, not close and mousy, and its five claws on each limb were curved like reaping-hooks and sharp as needles. Its movements were very awk-

ward when crawling about, and it was clearly unaccus- June 17.
tomed to pedestrianism.

It was evidently of a very nervous and timid character. We put in a large blue-bottle fly under the tumbler with it, and the fly did not exhibit any dread of it, but buzzed round with great vigour and activity. The poor little bat, on the other hand, exhibited considerable trepidation, drawing back in alarm from the intruder, with its mouth wide open, and a distinct expression of fear. Every time the fly buzzed with energy the bat gave a nervous start and retired, and seemed quite relieved when we permitted blue bottle to escape. Probably ignorance was the cause alike of the fly's courage and the bat's fear, as neither may ever have met similar company before. The bat would be almost confined to gnats and midges and such minute fry, while the blue bottle would generally be in bed ere the bat got abroad. Thus, unless they were to crawl into the same dark corner, their paths lay widely apart.

So long as there was any apparent chance of escape, it worked assiduously and unintermittently to get out. Placed in a small box lined with loose paper and covered with a plate of glass, it tried it all round with steady pertinacity: but so soon as it clearly saw there was no way out, it crawled into the darkest corner, made itself small, and remained so absolutely still for such a length of time that we actually thought it might have died. But it had merely sense enough to see that its efforts were vain, and to husband its strength—an amount of intelligence, no doubt, partly dependent upon want of pluck, as some animals will destroy themselves in transparently hopeless efforts to obtain their freedom.

Had it not been the breeding season we should have

June 17. endeavoured to keep and make friends with our evidently gentle and not unintelligent little visitor, but at such a season this would have been cruelty; so, after keeping it 20 hours for careful observation of its appearance and ways, we allowed it to hurry off blindly to seek its companion and report progress. Its eyes, small and all iris, were gentle and yet bright; still it evidently trusted more to its delicate ears to avoid obstacles and observe movements. This is the first time we have had an opportunity of making the personal acquaintance of the long-eared bat, and we can assure our readers that a more beautiful, interesting, or finely-organised little creature it would be almost impossible to procure.

The only other instance we have heard of in which it was procured in this district was at Kiel, where a lad brought a specimen newly dead to the "Local Authority." "Do you know what it is?" he was asked. No! he had no idea. "What do you think it is, now?" Well! I can't think, he answered, unless—this in a tone of solemn awe—unless it is "a young devil." Strange that this should have occurred to the lad, and it must surely have been suggested either by scriptural pictures or the character of the wings. At any rate, it was at once classed as a son of Belial, that loved the darkness rather than the light.

June 24. Most visitors to the Highlands must have seen, flitting over some of the quieter lochs, or jerking along over the rich herbage of the entering streams, a gay spirit in a delicate blue uniform with transparent wings. This widely-spread dragon-fly was a source of great delight to us in our boyhood, and we still recollect our first meeting with it by Loch Clunie, near Dunkeld, and the unsatisfied

longing we had to obtain a practical examination of the June 24.
bit of sky-blue that eluded us upon the waters of the loch. That this was the most elegant, delicate, and graceful of the dragon-fly tribe we had seen we quite acknowledge, and although they have since become as commonplace to us as the bumble bee itself, we yet always derive pleasure from watching them. But alas for the old love! it has quite given place to the new, that has carried us captive with a rush. We were walking during a baking mid-day along the road bordering a little stream, with a low thorn hedge dividing them, when we suddenly saw a bit, cut out of the bluish-purple mountain as the sun goes down, zig-zag across our path to the farther side of the stream. The colour was indescribable, unless the rich gloss of dark-blue velvet can give the impression produced. Between Prussian blue and indigo as to tone, and yet evidently a dragon-fly as to profession and movement; as it rested on the herbage with its rich, dark wings closed, we thought that it really rivalled the humming-birds of the tropics for beauty, while it even excelled them for delicacy and grace. That unhappy hedge, however, was in the way, and when the creature discovered by our movements that it was an object of interest, it very soon sought the topmost boughs of an overhanging beech.

All the day that bit of blue haunted us, and as we repassed the spot towards the evening we again kept watch for the stranger, for such it was to us. There one appeared again, jerking along with its peculiar flight, when passing from plant to plant, but dexterously crossing and recrossing the stream as we endeavour to put ourselves on the same side of it. At length it settles on a fern frond bordering the burn, and a dexterous toss of our

June 24. Kilmarnock sends our beauty in among the grass, albeit the weapon recoils into the stream. But the prey is ours, and we bear it home in triumph, and although we deny that a bird in the hand is always worth two in the bush, we are quite satisfied that one of these dragon-flies in the hand is still more beautiful—or at least displays still greater beauties—than when dancing in glory over the sparkling Highland burn.

The body is wholly of that rich irridescent bluish-green that may be seen on the neck of the drake. The wings dark indigo-blue, finely-veined and tipped with black. We have never met with the species before, and yet since we secured our specimen the same stream is thickly besprinkled with them along its greeny side, and we own to many a lagging footstep these latter days, as we watch the wonderful creatures playing like butterflies, and chasing one another like children, amid the fronds of the fern, and over the quiet stream.

They seem to possess all the vitality of their race, which is, in its larger and more vigorous species, full of force and energy. Dipping a large needle in concentrated carbolic acid, we punctured the thorax, without immediate result, and then, desirous of immediately killing it, we repeated the operation through into the nervous ganglion of the head, between the two great eyes. It was even then some time ere its struggles ceased, although we cannot fancy that the movements were other than "reflex action," whatever that much-abused term may mean.

We have not found a single bees' "bike" this season here. A district like this on the East Coast or centre of Scotland would be thronged with such sources of boyish delight, but whether they have been specially drowned out last summer, as might very well have happened, or

whether the commonly wet climate is unsuitable, certes June 24.
it is that they are seldom found now. A friend here tells me that he used to find plenty twenty years ago, especially of those gay yellow fellows that build among the moss, and called "foggies" thereupon in our youthful days. He attributes their destruction greatly to the increase in the number of sheep on the hills and braes, as they destroy their bikes, so easily got at among the sphagnum. We saw a few of these bees early in the season, but have not observed above a very few. We have seen but a few stray specimens of the red-ended bee, that is so vicious and shows such fight, and no wonder, when we think of the rich feasts we have dug from their underground treasure-houses.

The hornets continue to progress in power and numbers, and we have been watching the progress of one nest attached to the roof of an outhouse, where the mode of construction can be readily observed. The original Mother of the Gracchi has long been assisted by her energetic progeny, hatched from the first eggs deposited in the few early cells. But the space in the first walnut-shaped covering was limited, and the nest has gone on increasing in size as fresh envelopes were added over it, each with an intervening space between itself and the last. Now, we wondered how the rapidly-increasing family found room inside for their cells, on which to deposit the eggs of the whole number, or rather the increasing nursery of the mother, for we cannot yet say if there are any new mothers among the working progeny. We find then that the original enclosures have been cut away to make room for the expanding cells, just as if a man were first to build a larger enclosure around his house, and then take down the inner one. Then the outer enclosures, in place of

June 24. being supported from a single point, as in the first few coverings, now start from various parts of the surface of the next inner wall so as to avoid the difficulty of forming such a wall, with a considerable interval, all hanging from one point, and made of such flexible material. Altogether, the structure as it progresses increases in interest, and we come to the conclusion that not only is the mother wasp a much more energetic individual than the queen bee, but it is the mother of a much more sensible, if not so complicated a community. It may be well to note that, although we have frequently spoken of this wasp as the hornet, it is not so correctly speaking, as the hornet builds in hollow trees usually; but this is a species mostly confined to the north, and known as the tree wasp *(Vespa Britannica)* from its habit of boldly swinging its delicate structure from the ends of branches. They are very numerous about this part of the country, and, we understand, increase in numbers farther north, especially in woodland districts.

JULY, 1880.

July 1. Our spell of extreme heat accompanied by dry and rather coldish winds has broken, and we have had some days of our regular, good customary soaking weather. When the milder rain-laden winds made their appearance, bringing at first only a cloud-enshrouded sky and gentle showers, we were passing one evening along the road through the wood. As we turned a corner, we thought for a moment some one in our immediate front had thrown a lighted vesuvian from him among the herbage alongside the road, but a second's reflection rebutted this fancy, and we slipped up to the brilliant light in the almost

darkness, and soon transferred a fine specimen of the glowworm to an extemporised prison in the shape of an envelope. The white, clear, brilliant appearance of this phosphorescent light was too remarkable to be passed by, and we have since seen numerous specimens glinting brilliantly by the sides of the streams and amid the luxuriant herbage; sufficient to prove that our specimen was no isolated individual, but one of a numerous and flourishing community. So brilliant was the one we captured that it shone most brightly through the thick paper envelope, and as we stopped under the dense shadow of the overhanging boughs, with the bats' wings almost brushing our bonnet as they swooped among the numberless gnats that had gathered under the foliage, we could distinctly see to note the hour by our watch from the little lamp of the creature. July 1.

That the glowworm is a very common inhabitant of this snug corner of Scotland we believe is known to few outside the district; and yet there are other quarters where they are equally numerous quite as far North. We believe they are quite frequent about the island of Lismore —that green isle in the sea—and even about the mainland, and are by no means confined to this locality, but are occasionally found from Rannoch to Oban. This remarkable creature, which we always considered as a denizen of the sunny South, never having met it in the east or south of Scotland, nor even over a large part of the north of England, is no worm, nor has it any resemblance to or connection with the worm race. It is in reality a beetle about half an inch long, composed of ten segments, of which the last three abdominal ones are yellow and soft, the prevailing colour of the creature being black. The female of *Lampyris noctiluca*, as it is termed, is the lamp-

July 1. bearer, and she is a sluggish creature without wings, her mate only being provided with these needful appendages to bear him readily about, wherever he may see his lady's lamp lit in her grassy bower. Her habit is to curl up on her side, and throw the light through the soft tail segments of her under side, so as to cause a vivid scintillation among the grass, so brilliant as to attract the observation of the least observant. The substance in the tail segments will shine even after removal, but it is not at all clear what it is. The creature has certainly power to increase its intensity to a certain point, and can likewise extinguish it when alarmed.

There are several species, and we have gathered some on sunnier hills that seemed to emit the light from two gig-lamps in their backs! Although these otherwise greatly resembled the common glowworm. We recollect dissecting a cuckoo shot in the same sunny land, and were horrified to find its crop quite full of the little creatures, whose bright fairy lamps had so charmed us in our evening walks. A lady friend who had always gathered those she met with and brought them to adorn her lawn of a night, found they proved too strong an attraction to her fowls. We are all familiar with the great attraction that a jewel, or any bright object, has to domestic fowls, as well as to those interesting thieves, pet jackdaws or magpies. May this be an instinct derived from the glorious feasts of their progenitors on the gay beetle that illumes the night! We know a henwife, whose numberless chickens will continue to dab at her diamond ring, despite the fact that they have proved again and again its non-edible character. Is this an overpowering inherited instinct?

Our ancestors certainly did not enter into very minute distinctions as to the lower organised creatures, and the

name *glowworm* was in keeping with the application of July, 1.
"worm" to all creeping creatures; even the great dragons that were so notably combated of old in the ballads, went under the undignified name of Worms—although they did receive a capital before the name.

This year again what is commonly called "mildew" has attacked the larch trees, and they are covered with infinite quantities of fine white powder, as if dusted with snow. This, when examined, proves to be the cocoon of an insect, or the fine, flaky, pollen-like accumulation enclosing quantities of the eggs of a very minute tree-bug or fly. The injury done by such myriads of insects, however minute, must be incalculable; but it is not easy to propose a remedy for such a wide-spread evil. They were very bad last summer, following an exceptionally severe winter, so we can scarcely look to their extirpation through the severity of some coming frost.

We have had several pairs of woodcock with us all spring and summer. No doubt some of these did not nest; but never a year passes in Benderloch without some nests of this bird being found, and we last night saw what appeared a covey of young woodcock flying around among the trees, and looking as if they had still hold of the string of their mother's apron. It has long been a settled matter that the woodcock does *occasionally* breed in the North, but we know no other district where they may be looked for with absolute certainty year after year. The ways of this strangely-aberrant bird are peculiar and unreliable at all times, and it is satisfactory to know that there is one district where they seem to turn fondly as to a permanent home. This is the more complimentary to us, as they are such great travellers, and when they do

July 1. arrive in this country from abroad are most fastidious in their choice of a location—even for a transitory residence.

July 8. The road through the woods has been especially finely scented these last weeks, the prevailing odours being those of the ambitious eglantine and the dying branches of the Douglas pines. The former, in magnificent groups, has been gradually bedecking the underwood, until it now looks down in richly scented masses from the leafy tops; the latter, glorious in decay, has been flinging its aromatic pine-apple perfume through the woods for many weeks past. Indeed, wherever the Douglas pine was sorely stricken, it has chosen this most agreeable mode of communicating its distressed condition; and for some time we could not imagine that the rich aroma came from the departing spirit of the pines, but supposed it to arise from the plentiful exudations of the plants in their full vigour. These, however, were greatly inferior to the crimsoned and sapless branches, and required a close approach ere their scent could be appreciated.

Our loch has not been rich in fish this spring and summer, but yet fair takes of saithe and lythe have been from time to time secured with the fly. Occasionally even ground fish are caught in this way, and a friend when lythe fishing with the fly lately, near the narrows where the shores are rocky, caught a fair number of rock cod! This is a comparatively rare occurrence, and could only be accounted for by the shallow character of the ground, over which the trolling rods must have been well sunk towards the rocky bottom.

A very remarkable instance of vigour of memory in a horse occurred last week at Connel. A horse which had been sold more than a year ago to a man near Oban

strayed away as far as Connel, and finding the famous falls to be at nearly slack water, it started to swim across to its old home near Ledaig. Although driven back from the north side it yet secured a landing further along, and managed to reach its desired haven. No doubt its memory must have been stimulated by former kind treatment, and perhaps more constant and severe labour in its present home. A clear and distinct memory is one of the most vital signs of intelligence, and there are many instances of horses retaining a vivid recollection over very lengthened periods. We recollect a friend telling us of a case in his own experience, in which he was traversing a road on horseback that he had not ridden upon for 15 years. The horse he rode was jogging along wearied and thirsty, when it suddenly brightened up and hurried forward to a well about a mile ahead, at which the same old horse, then a young animal, had slaked its thirst so many years before. July 8.

We are now at about our best in the way of wild flowers, both for beauty and variety; but time after time we are brought to a halt in silent admiration at some little sheltered spot under a bank, with the green of the moss and the graceful fern fronds relieved by the stately splendour of the foxglove. These, as they curve their strings of bells in elegant gradations, command our attention, and are so intertwined in prose and verse, in paper and on canvas, with faery lore, that it seems scarcely credible that the original name should have been lost in the meaningless appellation of the present day. Folk's glaive, the glaive or helmet of the Little Folks or Faeries, is so natural and evident, that one can only look upon foxglove as an Anglican atrocity. The Faeries were always spoken of as "Little Folks" in Scotland, and even

July 8. until a quite recent period old people were very careful not to insult or "name" them; and more particularly were they most anxious not to annoy them by wearing the Faery colour, *green.* We recollect how a friend described the difficulty he was in, when asked to procure a Paisley shawl for an old lady in the immediate vicinity of Glasgow. A Paisley shawl it must be, but equally positive was the injunction that there must be no green in the colouring. It did not matter that only here and there a little green relieved the complications of the pines, it was the "Faeries' colour" she at length acknowledged as an excuse for her obstinate rejection of all and sundry; for if we recollect aright it was as difficult to procure a Paisley shawl without some green as it was to overcome the superstitious prejudice of the old-fashioned dame.

Our next especial favourite among the flowers of the highway is the beautiful blue speedwell. Its petals are so delicate and so readily scattered that a bouquet is scarce culled ere it begins to disperse. To our mind it far excels in beauty the more famed forget-me-not, which is likewise a much hardier flower. Indeed the speedwell is frequently mistaken for the other, and many a one who has been presented with a sprig of the brilliant blue flowers, so self-forgetful and ready to perish, has mistaken the purely friendly speedwell for the egotistical forget-me-not, that says one word for you and two for the donor.

While rambling some days ago in the neighbourhood of Dalmally, we found ourselves craning our necks up at the dexterous tree-creepers among the branches of the trees, until, stumbling on, we were brought up suddenly, as we met the fine straight bole of the larch tree against whose trunk we had stumbled. As we stood on the

sloping bank, from which it sprang so straight and tall, July 8.
like the valiant few whose inherent virtue defies the dangerous foothold of their youth, we probe its rough hide with knife and finger. Although perforated with numberless insect holes it was still healthy and vigorous, and we continued to pick its wrinkled bark with a feeling of personal insignificance beside the vegetable giant. What struck us most was a peculiarity we had never had our attention specially directed to before, and that was the non-fibrous and non-laminous, or rather irregularly-laminated character of the outer cuticle! It seemed as if it had been thrown on the tree from the outside, in place of being the result of the internal flow of sap. The appearance, as it scaled off in thin irregular plates, was that of some adhesive matter which had been splashed upon the tree, and then flowed some little way in uncertain patches. This was at the very outside; as it approached the wood proper it became wholly laminated, but everywhere burst, as the growing giant had found himself confined. If formed like the other, why had these outer layers so wholly altered their character?

We watched the restless movements of the birds so long amid the higher branches that we might have ended with a crick in the neck, but for the dire scream of the new visitor as it swept in a graceful curve round the head of Loch Awe, and thundered ruthlessly across the Orchy.

There has lately been a considerable controversy as to July 15.
the carnivorous and egg-eating propensities of the starling, a bird which seems to have few friends and many enemies in the land. The Duke of Argyll has taken the part of the sturdy little bird, denying emphatically its partiality for plunder in the shape of the eggs and young

July 15. of smaller birds, and repudiating the assertion that the scarcity of that "blythe spirit," the skylark, is caused by the increase of this so-called robber. Some observations made by the Duke are rather remarkable, and, indeed, to us they would be scarcely credible but for our experience in this district. He makes the date of their advent in Inveraray to be very recent, and their arrival even on the shores of the Clyde as comparatively so. This is difficult to account for, as we recollect the starling going in vast flocks, of many hundreds, in the country to the south of Glasgow, now nearly thirty years ago. They had secured a firm hold of the country for a long time before that, as their confident house-sparrow courage in building their nests in human habitations, and their great numbers proved. Yet it is only a few years since they arrived in this district, and even now they are by no means numerous, although their great activity and energy makes their presence felt wherever they are.

We are inclined to agree with Argyll when he disbelieves in their egg-destroying propensities as a rule, although an abnormal taste for an egg to breakfast may occasionally be developed among them. We have never known them indulge in such vagaries, although familiar with them in multitudes; nor could we ever say there was a sign of diminution in the skylark in the Outer Hebrides, where the starling for long has held almost undisputed sway among the caves of the cliffs. Apart from the severe winters we have lately had, and which perhaps destroyed a goodly number of those that remained with us, we must not forget that the lark is partially migratory, and gathers into large flocks in the winter time. No doubt the winter before last sent greater numbers of our larks to the south than usual, and, besides

those that fell a prey to the weather, which was as severe July 15.
in the South as with ourselves, we must allow for the increasing numbers caught on the South Downs and elsewhere, to meet the demand for this unfortunate dainty. Had our larks remained in their native land, they might have escaped the winter, and would have escaped the snares and nets of those who ruthlessly supply the English poultry shops. Those who are anxious to retain our supply of larks for rural and æsthetic purposes must either induce them to shun the inhospitable coast of England, or else borrow an idea from the starling itself, and implant a disagreeable bitterness in the head of the lark, which will diffuse itself through the system after its death! This is a common belief respecting the starling, and, when shot, as they sometimes are, the head is always at once taken off, in order to prevent the flesh being spoiled for the table. We cannot vouch for the validity of this belief.

The starling is a bird of great beauty, and particularly strong built and active. This is never so well displayed as when they are among the blackbirds on the lawn. We have often spent a pleasant time watching them running along, with their compact little figures, short limbs, strong bills, and general appearance of a well-put-together feathered prize-fighter. Here and there they run with restless energy, when a graceful outsider appears, with a timid eye, a delicate, nervous figure and slight limbs that hop elegantly forward. Just see what a contrast! The starling is a runner, we do not think we ever saw one hop; the blackbird, on the other hand, is a hopper. Nine times out of ten he will hop forward, although you *may* catch him running on the tenth. But yet the starling is a bonny bird, with its irridescent coat; a clever, bold bird, a bird with a domestic turn of mind, that will

July 15. readily take advantage of your arrangements for its convenience; and with great "facility of expression," even in its wild state. We do not see why we should not have both the starling and the lark; and certain we are that it will not be the blame of the former if they cannot live together in harmony.

Of late the corncraik has assumed the *role* of the cuckoo, and become Mr. Irrepressible for the time being. Not only all day long, but a great part of the night, the peculiar ventriloquial "crek" regales our ears; and yet, harsh and unmusical as it sounds, we on the whole prefer it to the cuckoo, which much sooner becomes monotonous and aggravating. It is very rarely that we enjoy the sight of a landrail in an agricultural country, and it is only in the bare but mild and genial outer islands, where herbage is long of rising high enough to conceal them, that they are constantly visible. In such a locality we have seen half a dozen in a field, and traced their notes, and watched their skulking ways, with the greatest facility. Only once have we properly seen one here, and then the little creature was "creking" on the other side of a hedge and stream at a lower level, as we arrived gently and looked over. The craik slipped under a few blades of grass the moment it found itself observed, and there it remained, a few yards distant and beneath us, fancying itself concealed, like the classical ostrich with its head in the sand. Not unlike a large thrush in general colour, but lighter in tone, it is well qualified to remain concealed amid earth and grass, and so long as I staid on the ground, the little bird remained immoveable. Whether it believed itself observed latterly or not it would not risk the slightest movement.

The warm weather has quite flooded us with toads,

which are hopping about everywhere. One recently July 15.
turned up in the evening on the floor of a room in course of completion, but although we have no special aversion to a toad, *per se*, we yet are weak enough to consider them slimy and disagreeable to the touch, and object to sharing our apartments with them. So we took the little fellow up very gently with a pair of tongs, and proceeded to carry it out. As we did so, the creature looked at us with its beautiful eyes, and, to our surprise, proceeded to cry like a baby! The sound was rather that of an infant, and appeared to us, as it must have been, more expostulatory than a sign of suffering. Could it have been a wicked Princess from some fairy tale?

The importance and interest of the starling question, July 21.
as it may be called, to all lovers of bird life is such that we do not scruple to again call attention to some most interesting local facts respecting this bird. It appears from a work recently published that the starling was quite a rare bird in the vicinity of Belfast thirty years ago—namely, about 1850; while at the beginning of the century they had been abundant! After forty years' absence, two or three pairs commenced returning, and within twenty years thereafter the writer, Mr. R. Lloyd Paterson, had seen a flock of certainly not less than 10,000, or 12,000 flying over the grounds of Lowwood and Fort-William Park. He adds that they had since then gone on continually increasing; and here we have a locality in which two problems in connection with them arise. The one as to the probable cause of their strange disappearance from the place, which raises the question whether they might not have been equally present in other districts formerly, into which they are now again re-entering;

July 21. the other as to the comparative rarity of other birds of all kinds during the three periods, and how they were affected by them? It is quite possible that the presence of such vast multitudes of birds, so active and voracious as the starling, might prevent the possibility of the other weaker birds obtaining sufficient aliment; and their exceptional increase might similarly force them to desert a locality *en masse* in which they found it impossible to procure an honest livelihood.

We find that they first made their appearance in Benderloch about the burned House of Lochnell in 1863, having come over from the island of Lismore, where they had probably long found a home, as in the other Hebrides. At Lochnell they remained for several years before they got the length of the old castle of Barcaldine, only two or three miles off; and several years more passed ere they traversed the intervening space, and overleaping the Barcaldine woods, arrived again at human vicinity and solid masonry, at the modern mansion-house of Barcaldine, about four miles from the old castle. We give this "itinerary" of their progress from a most careful observer as a small contribution to the literature of the subject; but at the same time we cannot conclude that this was its absolutely first arrival, nor can we account for the mainland being deserted by these birds while the adjacent islands were thickly inhabited by them, as it would naturally be supposed that the same conditions that prevented the previous occupation would still hold good!

Most persons must have remarked, when crossing peat bogs or skirting stagnant waters, that the bright eyes of a toad were gazing up at them from the bottom of some water, to which it had sunk for safety. Here, as we have frequently observed, they will remain for a long time, but

we have never seen the question tested as to how long these cold-blooded creatures can remain submerged. Our sunk tub-trap contained two days ago a vigorous specimen of a toad, which had evidently fallen in during the night, and now lay stupidly waiting for something to turn up. In vain we offered it a foothold and mode of exit; as our friend remarked, it persistently acted on the principle "I will be drowned, and nobody shall save me." Not finding that our efforts met with a proper reception, we were obliged to leave it at the moment, and were greatly surprised to find, upwards of twenty-four hours afterwards, that the creature still lay in the same position on the surface of the water, or rather just submerged, and with its mouth out. We jerked it out this time, and it hopped off, apparently as stolidly satisfied with the condition of things inside as out, and outside as in. July 21.

We have had quite a little African experience in some of our Highland streams lately, as the drouth on the whole has been such as to dry up the streams in their lower courses, and yet the occasional heavy bursts of rain have more than once reconverted them into continuous running waters. This temporary renewal of activity has several times deluded the burn-trout into resuming the occupation of their "holdings" amid the stones and under the banks of the lately dry beds. Another few days of rapid evaporation and the streams were again represented by a few isolated pools, into which the finny inhabitants were gradually drawn as they continued to narrow in dimensions.

A day or two since we wandered up the stony bed of a large burn, dry and lifeless under the eye of Shiva the destroyer, until a pleasant patch of sheltering foliage

July 21. attracted us. Here we found one of these pools in which the graceful spotties of all dimensions were hurrying to and fro, having evidently discovered the circumscribed area of the water-hole that lately sped onward to the neighbouring sea. What will become of them? you naturally ask, and almost expect to find others gasping out their last moments in some dissipated pool as we progress. Hush! there is a sound of revelry by day, and high carnival is being held under the drooping foliage of that "pebble strand" near by. Quack! quack! quack! of satisfaction, and a string of solid-looking ducks from the nearest farm-house waddle contentedly past, leaving one of their number with an unfilled corner still busy at work among the poor trout.

Selfishness and egotism, indeed! we exclaim, as we wander to-day along the verge of the sea-shore, with the entering tide just shortly turned. To view the countless living creatures in their desperate, dire, incessant struggle for existence, and believe for one passing moment that mankind have striven upwards through this terrible "survival of the fittest" fight to their present position, makes us wonder that even our highest minds can have eliminated any portion whatever of this Ego that has thus been branded so sternly from earliest stage on the soul of living creation. Higher thought is crowding out the baser, and we, in our compassion for the helpless, struggling life beneath us, are likewise lifted above our personality. Indeed! Are we?

See those buried siphon-shells, as they feel the approaching daily meal, how they squirt out the much-used stock of water ere they suck in the coming draught; what awakening energy in the stranded shrimps as the lap, lap, and the graceful swirl of the water tells of new life and

vigour; see—!' We give vent to a hasty expression, and July 21.
the Ego of the would-be philosopher is suddenly omnipresent, for has not the truculent tide, like a stealthy tiger, crept around, and noting that depression behind us, filled it at a sweep, and driven us to spatter ignominiously to the suddenly distant shore? Why that contracted brow and heated appearance, that most unphilosophical display of temper over wet feet and clayed pants? We fear, Mr. Wiseacre, your absence of egotism was but very partial and temporary, and that the difference between you and the stranded shrimp, that gazed at you with disinterested curiosity, was, after all, merely one of degree! Was it so?

We have had a very fine season on the average, and, July 29.
in our recent journeyings from home among the lochs and mountains of the west, we have felt the want of our ordinary natural weather. The evening sun glinting on the hills, or the mid-day blaze showing up clear and distinct every nook and cranny of the precipitous cliffs and sloping braes is no doubt very enjoyable; but, after all, there was an absence of the usual life of the vivid west. At first we could not account for it; but the other evening heaven's artillery was at work above "Glenartney's hazel shades," and as the sun went down over Ben Voirlich and the Braes of Doune such a splendour of crimson and gold made each black crag and corry stand boldly forth, as one sees but seldom in a lifetime. Yet not those wondrous golden fleeces, more enticing than Jason ever sought, nor the black drift of cloud that streamed into the great furnace mouth, supplied the wonted life we felt was absent. Only to-day, after the rain has been driven steadily from peak to peak, and curled in marshalled hosts of clouds down every strath

July 29. and glen, do we see the native beauty and the natural vivacity of the western land of streams. The lately dreamily-desolate mountains are alive with sprightly runlits, so bright, and gay, and active, with so much individuality in their self-sought courses, such a musical petulence in their headlong career, that we feel they are indeed the children of the mountains, and that without their cheerful voices and romping ways the purpling heather and the greening bracken would in vain display their charms. How few, who grumble over the petty inconvenience of the passing shower, consider how wretched our noble western land would soon become were the hurrying cloud banished for a time. As well remove the dexterous fan from the hand of a Spanish beauty—more than half her charm was in its skilful handling. No; we cannot do long with drought in the west. Our salmon and trout streams shrink into shameful silence, our noble waterfalls slink shamefacedly downwards in place of dancing wildly to the plains, and the silence of the hills is like the desolation of Egypt after the slaughter of the first-born, for the prattling voices of the bairns that are born when the clouds embrace the mountain tops are sadly missed by those who wander alike by moor and fell.

The lochs and lochlets that may not be too restless for the easeloving plant are now skirted, and occasionally well covered, with the leaves and flowers of the water-lily. We do not deny the interesting character of this plant, but we cannot help thinking that its difficult approach and peculiar position, as well as its allegorical character, have more to do with its being such a favourite than any individual merits it may otherwise possess. There is no doubt much romance surrounding this flower, which,

despite its birth amid the black slime of the bottoms of sluggish waters, forces its way upwards to display its beauties on the surface. A most deceptive plant it is too, for as we circle about these various ponds it seems so close at hand, just beyond that belt of sedges, and always the outer verge of water vegetation. July 29.

We often wondered why the lotus, the great water-lily of Egypt and Asia, was such a widespread emblem of Divine power and fertility. Not until we traced the progress of the emblem from its early home amid the upper waters of the White Nile, where Werne tells us it was the great cereal of the bordering peoples, who lived upon it, did we appreciate the apparent reason for its allegorical importance. All early peoples must have looked with semi-admiration upon what supplies their first, last, and greatest need—the demand for that nourishment which no early Dr. Tanner taught them to do without. So the water-lily (*Nymphæa*), the water nymph, that the sun dragged in its own likeness from the depths of the southern waters, represented the food giver, the fertiliser, the Ceres of the early times, and no doubt this all-pervading idea has been carried forward through the centuries, softened and refined as our ruder necessities were thrown further and further into the shade by labour, foresight, and intelligence. The young cannot be too often cautioned against the treacherous footing whence the water-lily rears its lovely bulbs. We have rarely seen them growing where it was not dangerous for children, and generally even for their elders, to attempt to pluck them. They seem to require a rich slime to rise from, and they always demand some considerable depth of water. Their roots were formerly in great demand in this country as the source of a fine lasting black dye.

July 29. Equally distant from the hillside and the sedge-bordered lochlets we find the meadow-sweet, or queen of the meadows, flinging her honied fragrance all around. This is now one of our most striking flowers at a time when the earth is bedecked in her gayest apparel, for she commands attention by her lavish dispensation of favours. We are still skirting the vicinity of the lily-ponds, picking our steps through the ungathered swathes of meadow hay, whose dying breath scents the summer evening; and, as we emerge on the river bank, we glory in the unstricken beauty of its green slopes. For the showers that have enticed the scythesman to pursue his facilitated labours are still leaping from spray to spray of the gracefully bending grasses, running down the delicate stems, or curling the heavier-headed specimens into loops. Within a few yards we pluck a dozen different species of grasses, each one of them more interesting and beautiful than its neighbour, and we only wonder that our homes are not all rendered more graceful and tender by a few handfuls of these almost perennial flowers. Who does not recollect Ruskin's handful of grasses, so apparently negligently culled, and tossed by his skilled pencil on the speaking paper, to be a thing of beauty and a joy for ever?

Here about the river bank, too, we find that most fashionable flower the large ox-eye daisy. Fancy a fashionable flower? Still it is some little consolation to know that this really simple and elegant plant, that forms so charming a bouquet with the more graceful grasses, is really appreciated as it ought to be for a time; and it is no worse off than golden hair or raven tresses, if it does last but for a season! How would old-world Scotch farmers, who were fined by law if their fields were too

"dirty" with this gay flower, have looked had they been July 29.
able to foresee such a day of "sweet revenge" and successful ambition.

If severe winters have ever anything to do with abundant crops of wild-fruits for the birds, as the olden school of natural theology so constantly reiterated, then the coming winter must be a severe one indeed, for never have we seen such laden bushes, as those of the wild dog-rose everywhere display. They have not yet donned the golden hue of autumn, or else the bushes would vie with their earlier flower-laden selves.

A day or two ago our conveyance was followed for some time by a jackdaw, which was a partial albino. Two white spots, one on each wing, apparently among the secondary feathers, gave it a somewhat peculiar appearance in flying, as if it had two eyes on its back; almost as unnatural as the peacock's tail eyes of the jackdaw in the fable. It was quite alone, and seemed very tame, and may well have been driven forth from the companionship of its purely sable friends, as most wild creatures show the same dislike to individuality as does water-worn-pebble humanity!

AUGUST, 1880.

Aug. 5. What may be the immediate cause of exceptional fructification among any class of plants? In travelling through the country of late no one who has eyes to see but must have remarked the extraordinary crop of potato flowers. We cannot remember ever having seen such a growth of blossom, and some here assure us no such flowering has been seen since the potato famine. Our blue potatoes are seldom without some blossom, and not only are these abundantly provided, but many classes on which one never sees a single flower are this year gay with colour. It cannot be the summer heat alone, as two summers since it was still hotter; but it is quite possible that the combination of heat and moisture, which has not only thrown out such a large growth of colour but also of shaw generally, may have likewise given increased energy and vitality to the whole plant. In many fields the rows are indistinguishable amid the mass of shaw, and the roots themselves are possessed of that delicious flavour of the natural potato that we were actually beginning to forget. If this mass of flower, then, is really merely the evidence and outcome of increased vigour, it is a hopeful sign for some years to come, as the vitality is likely to endure for more than a season.

We have very vivid recollections of the flowering of the potato, not so much from the really pretty petals, as from our keen anxiety to have a good crop of potato plums, the ripened seed vessels of the plant. But even in our boyhood it was only in the gardens or *kale-yards*, that the crop of potato plums was such as to reward our labours, as the fields rarely yielded a supply at all. What

lad in the country has not carefully selected and stripped Aug. 5.
a switch from the autumnal hedge, and pressing the point into the heart of a *'taty plum*, thrown it across the fields with a dexterous toss that left the switch clear for another bullet! This was a very favourite amusement, that came round to the embryo farmer in the farm-*toon*, as regularly as buttons or marbles to his civilian cousin. We dread the coming autumn, as such a plentiful supply of ammunition, combined with the unusual growth of switches, is more than the average human boy can stand with equanimity.

We are informed of a pair of redstarts in the vicinity—a comparatively rare bird in the west, and one we are not well acquainted with. There must be a few of them about, however, as we received a specimen of a female from Ledaig a few days ago. This elegant, delicately-formed, long-tailed little bird, with a general tinge of oxide of iron on tail and wing coverts, had killed itself against the telegraph wire. One would have imagined that ere this most birds had become acquainted with the character of the unyielding wire, and learned to avoid it; but every year multitudes of birds are killed by violent contact with it. Where it crosses grouse moors the wires are now very generally hung at intervals with pieces of wood or metal, in order to show the birds that there is something to avoid. This is certainly a compliment to their intelligence, as they must be supposed to argue that such articles cannot be there without a connection on which to hang; unless it is merely the intention to act as a bogle, and scare away the birds from the unknown and feared, until it becomes known, and consequently no longer dangerous. Finches are not remarkable for speed of flight, and yet this poor little victim was terribly man-

Aug. 5. gled by the concussion. We should like to see the effect on a peregrine falcon, with its speed of 60 to 100 miles an hour.

In a note on the ring-ousel, lately, the Duke of Argyll stated that it was seldom seen in the West of Scotland less than 700 or 800 feet above the sea. We have already mentioned the cosy nooks, beneath the neighbouring scaur, as a regular habitat of this bird, and here it builds at a very much lower altitude than that mentioned by Argyll. We are also informed that very special conditions combine to entice it downwards towards Bonar Bridge, where mountainous and rocky ground descend before it.*

Some one lately remarked to us upon the peculiarity of the starling running in a circle on the grass when feeding, or rather in a series of circles. We believe the reason for this is that they are seeking the insects from the verge of old cow droppings, which spread out in a circle, and after a time are generally inhabited. That these birds are by no means so purely granivorous as was stated by Argyll is proved by their frequently being seen on the backs of sheep, where they are busily engaged removing the obnoxious ticks, to the evident satisfaction of the original owner, who is glad to part with them. In this position they have been often captured, when their feet became entangled in the wool.

The heat and moisture of the year has produced an exceptional supply of animal and vegetable life, but we question if there is anything to beat our crop of peas, that threatens to emulate Jack's bean stalk! Sown on the

* The nest has been found within a hundred feet of the sea, near Ledaig.

verge of a demolished pig's-stye, they lacked not richness Aug. 5.
of soil; and they have accordingly climbed in luxuriance to the tip top of nine feet sticks, and would have gone much higher had they been prepared for. The crop of pods is quite in keeping with the mass of straw, and altogether it shows what Nature will do if a fair chance be given. They form an impenetrable cane-brake, and not a duck has ventured within quacking distance since the pods filled. We would scarcely believe a duck could fly over the place without a thrill of apprehension. We have become so familiar with peas that we have ceased to appreciate the wonderful hands that supply the place of the weak backbone of the plant, and enable it to seize and cling to foothold after foothold, as it clambers ever higher. Once it catches hold it may lose its slender limb with the hook at the end, but it will not lose its hold, for round and round it twists securely. Yet, until it meets such hold it will not curl, but continues to stretch out its hooked hands ever longer, with that inherited habit that almost emulates the instinct of a living creature. Even a microscopic claw and a grasping faculty will do much in this world to supply the place of a weak backbone, and many might go with advantage to the pea for a lesson in worldly wisdom.

The sea of late has been much warmer, and consequently all sea-weeds have grown abundantly, and as for crabs and molluscs they are infinite. All talk about over-fishing has been recently settled by the unprecedented herring-fishing, which shows clearly that the opinion of those who insist that the supply of sea fish is really increasing in place of diminishing, as our rivers are sending forth annually a greater portion of edible constituents, is apparently the correct one. At any rate, we

Aug. 5. have, on the whole, more boats, more satisfactory returns, and a better supply for an increasing population.

Aug. 12. That the so-called instincts of many animals is really to a great extent the outcome of observation and intelligence, and consequently liable to error, has come to be an accepted axiom. There are numberless instances of all classes of animals being misled by good imitations, and often by very rude imitations; and notwithstanding the very ancient discovery of glass, and its constant and general use, few animals yet appreciate its character. We were amused at an instance of this the other day in our dining-room, into which a fine specimen of the "witch" butterfly had strayed. It was fluttering stupidly about the window, in the usual helpless way of insects seeking exit, when suddenly a small bird, apparently a willow wren, appeared outside and several times ineffectually endeavoured to seize it, through the pane of glass. The incident was alike pleasing to contemplate, and interesting to consider. It showed that both the insect and the bird, despite the different characters of their organs of sight, found the hard, impenetrable pane of glass to be as transparent to them as it was to the eyes of humanity. This in itself is an interesting fact, as it is quite within the bounds of possibility that such a solid substance may appear to certain organs, if not opaque, at least impassible. Strangely enough, birds and insects alike seem never to understand the impenetrable character of glass, and a wandered red-breast or chaffinch will dash as continuously, with astonished result, against the window as a stupid blue-bottle itself. We have known a hawk to kill itself against a plate-glass window in attempting to strike at a stuffed bird inside—a double failure of so-called instinct!

But the occasional regardlessness shown by a hungry member of the Raptores is very notable. The other day a friend, while passing along a path close to the main road near us, came suddenly upon a "Ringtail," the female of the graceful Hen Harrier, engaged upon a chicken it had seized. The bird was so close he might have struck it down, yet nevertheless it coolly and defiantly circled about him once or twice, and settled on a tree in the garden, close alongside, in order to be ready to return to its feast. This it must have done at once, as another passer bye a few minutes afterwards found it putting the finishing touch to the fragments of its meal, when it displayed the same defiant equanimity at his proximity. Aug. 12.

"Once more upon the waters," for a steadily rising barometer has enticed a picnic party to seek amusement and natural wonders amid the waters of Loch Linnhe. The day is grey, and dull, and misty, with an occasional drizzle, despite the bright prognostications; but we are not to be damped. The mingled labours of oars and sail carry us outward, and when we run our prow on the island beach, we are beyond the reach of weather influences, and ready to pick our joyous way through the wet of grass and heather, and under the muggy sky. We deposit the ladies, and other good things, under the scooped-out cliff, where they may enjoy the air and the landscape, but not the rain, if so they desire. They are then left to prepare a collation, while the sterner part of the company seek ruder wonders by cliff and shore. Only half an hour at the outside, for have we not already lit a sheltered fire of peats and wood, and will not those beautiful potatoes be laughing gaily ere many minutes have expired? So we hurry away, and peep around the

Aug. 12. cliff in case the ruler of the scene should happen to be at home. Bang! Again! Who would have thought it? A peregrine falcon so close as that, and still more wonderful and infinitely disgusting, to get away badly hurt. It has been feasting upon a blue rock pigeon behind that rocky cleft, and so has just waited too long for one last mouthful. We fear this has cost its life, as it could never survive such a doze, although it towered away so gallantly for a time. Better far you were unhurt, and better pleased would we at least have been!

Among the rocks and the nobly growing heather we scramble, and—"Here is a duck's nest," shouts one, "with the eggs still in it." Clearly it has been deserted, as all wild duck eggs must be out long ago. A few paces further and the poor little story is completed, for here is the decaying body of the dead mother near the source of her happy anxiety. A dog, a reckless and unfeeling gun, or some natural enemy has destroyed both mother and prospective progeny. A little dog has joined our party also, and it now attracts far greater attention on its unconscious head than our whole company. Shrieking, swooping, and circling overhead, in the most graceful and elegant figures, and with the most heartbreaking sounds of fear and anxiety, the beautiful terns skim and go. Quite a cloud of the delicately grey and black figures flutter above what we suppose the simply inquisitive and observing terrier, and we do not quite appreciate the cause of their hostile attitude until we rush forward and find that at last the little rascal has worried two young terns—fat, fluffy little gobblers. The young are perched all about on the ledges of the rocks, most of them attempting flight, while overhead a large proportion of those anxious parents have something in their bills.

Here one has dropped, and, behold, it is a young herring, some three inches in length, that is only not perfectly beautiful in its irridescent armour because it is so common that our eyes are scarcely fitted to appreciate its charm. A shoal of herring sile must be in the loch, as all are provided with similar provender. Aug. 12.

But we have long forgotten the potatoes and the ladies —out of sight out of mind—and it is late ere the various stragglers return to the cliff for an *al fresco* dinner. What a charming reception! Here are bouquets of blaeberries on the bushes, with the elegant foliage of the crowberry as a relief; potatoes *in* the pot—and only directly from the pot is a potatoe perfect—and all the cold etceteras that constitute an orthodox country feast. They have not failed to seek novelties also, and a young black-backed gull, without the remotest resemblance in plumage to its parents, is lying with its legs tied, but its stomach unbound, ready to devour any quantity of anything edible you choose to stuff into its insatiable maw. This gull takes several years to attain its full plumage, and is widely different in its early speckled-brown stage from what it becomes in its really handsome maturity.

As each displays the treasures gathered in the heather or along the shore, not the least valued is a pot full of mushrooms, from the grassy ledge over the seaboard. And the heather itself has not been unkind, for has it not presented us with a beautiful bush of pure white flowers! and even the bell heather has not failed to hand us a few heads of valued white hangings. The weather, forsooth; as if we could not enjoy ourselves, and see the wonders of the sea-girt isles, because a senseless barometer was foolishly sanguine!

Aug. 19. We are seated amid the luxuriant heather of the Linnhe isles, with the tideway surging past beneath us and bearing many an ocean waif on its ever-changing courses. Delicate heath of graceful form is intermingled with the ordinary so-called heather about us, and now we have evidence of stray visits from King Frost—stolen runs to his winter-quarters; for are not the bracken here and there showing beautifully variegated tints, from delicate green to bright yellow. Here we pick up a beautiful sprig of crimson leaves, and find it to be a tuft of blaeberry to which the sharp night-blast has brought the deadly beauty of decay, like the fatal glory of a consumptive cheek. The gulls are still haunting their late nesting-places, or buoyantly sailing around the coast—their light, graceful figures looking perfectly fitted for their almost continuous life on the ocean wave. Round that rocky point the hard, strong flight of a large black bird tells of an approaching cormorant, as it rushes off with outstretched neck to join its solemn-visaged comrades on that fucæ-covered rock with its grim top just above the sea-brine.

We look across to the dilapidated tower on the Island of Lismore, which goes by the name of Tirafour Castle, on which a group of wanderers, evidently out for a holiday, are amusing themselves, to the great enlivenment of the scene. We lately landed on this island, and reached the said castle, to find to our astonishment that it was in reality a fairly-well preserved example of a Broch; one, too, of a somewhat different construction to any we had seen. This was the first time we ever met a Broch that had apparently lost its character, and assumed the title of castle, not only in the public tongue, but the public maps. The Island of Lismore is almost entirely of limestone

formation, so much so that, as we wandered along the Aug. 19.
coast, the very moss was turned into lime encrustations as it grew. The Broch of necessity was built of lime-stone, in large masses as a rule, and yet the builders must have been entirely ignorant of the use of this omni-present cement, as it was as clearly a dry-stone erection as any sheep dyke in the neighbourhood, although so sufficiently built as to have retained its very prominent position, without any serious injury, to the present time. The fact of its great solidity and permanent construction, would in itself have been *prima facie* evidence of the ignorance of limestone as a source of cement, or else it would have been there employed; even although we had not the many similar structures elsewhere to give definite character to the class. It is capitally situated as a tower of strength on the sloping summit of a rounded hill, and the base is of great breadth and solidity, so as to carry the structure up securely from the bottom. We were not in a position to investigate its interior and precincts under the *debris;* but we have no doubt this specimen of these most interesting remains, generally relegated to the Picts as a class, would well repay careful examination.

It is as well that any one who may wander to the beautiful green island of Lismore—or "great garden"—should enjoy the sight of the well-fed, well-cared for sheep without attempting to imitate their peculiar mode of expressing themselves! No greater insult can be offered to one of the inhabitants than to cry Ba! to them, and their neighbours are not slow to take advantage of this peculiarity. Although peculiarly suited for the pasture of the sheep, the island does not necessarily give a "sheepish" character to the other inhabitants, as even their wicked neighbours otherwise allow; for do they

Aug. 19. not consider it as absurd to trust a Lismore man with a boat, or any part of its appurtenances, as it is said to be ridiculous to trust a Yorkshireman with a horse! Ordinary human virtue being unequal, in either case, to subdue the ruling passion!

But the island valley was enveloped in a muggy mist as we looked down over it, and we all looked grave, and said, just the sort of day to bring the potato disease! And have we not got it already, since then; in the shaws generally, and even in the tubers too, to a degree.

The crow-berries are still numerous on the bushes; even the blaeberries yet show a few beauties, but ready to drop at the first touch. Although it is actually now the 19th of August, young terns are still unable to fly on the breeding grounds, and the forked tail and heaven-cleaving wings still fly past with wondrous speed, bearing fish fry in the slim curved beak. Like most sea-birds they make a very slight and very exposed nest on the cliffs, neither difficult to reach nor to perceive. It is very strange how one will sometimes pass and repass a bird's nest without perceiving it. Yesterday we accidentally cast our eyes into the branches of a small tree near the door, and there caught sight of the long-disused nest of a chaffinch, in which it had brought out a nest of eggs this summer. This tree we had passed and repassed, and always threw a glance into it as we did so, and yet the nest escaped our notice.

In wandering through the heather to-day, more than white heath, or young terns, or the passing otter, or the black-backed gulls, are the webs of the spiders and their active and skilful builders noted. Spiders of all dimensions have spread their almost invisible and wholly exquisite erections across every open path, and between

every important tuft of heath. Individually, most of these spiders are of great personal beauty and exquisite marking, while in many cases the only way we could properly see their webs was by looking up towards the sky, and having the bulk of the threads between us and the light. Geometrically perfect, the maker sat on the very centre, with his telegraphic wires spread out around him, and then he regularly shook the whole erection with great vigour, causing the neighbouring grasses to vibrate strongly. This was frequently the means of directing our attention to their presence, the net being otherwise too fine for our anything but weak sight. Aug. 19.

Much attention has been paid to the British spiders, but we never before fully sympathised with the students who devoted so much time to their careful elucidation, although we have frequently kept the nest-building species and their cocoons. Underneath the heather we find, speeding along in infinite haste, other species with what appear spherical balls of bodies. These are not in reality integral and absolutely necessary parts of their bodies, but apparently *manufactured* balls, in which myriads of young are confined, and if cast loose from their abdomen, the spiders will seize and carry them in their feet. These spiders form neither nests nor nets. Many a time we have picked up such minute peppercorns and found to our amazement that they contained a complicated nursery of young and active spiders, ready to rush off on their own hook so soon as they were freed from their parental bondage. Certain it is that few more interesting sights are to be met on the moorland than the various spiders and their erections; the nets of many being admirable engineering works, several yards in length.

Aug. 26. Multiply and replenish the earth! But what if the teeming multitudes decline to "hive," and remain in half-starved myriads about the paternal home. We suppose the same strange instinct that impels certain peoples to multiply beyond their neighbours also drives them forth to seek a secure habitation, with proper elbow room, where they may be free from the jostling of their own kind. Or is it the same surplus physical energy differently manifested—namely, in a restless necessity for enterprise and adventure? We thought thus as we sat in our boat in the middle of Loch Linnhe, and saw approaching with wayward, staggering flight a large humblebee. It was evidently pretty well tired out, and settled for a short space on the coat of one on board, whence it was gently lifted to continue its flight. We fear it did not reach the further shore, but, like many another aspirant to the honours of foreign travel, sank by the way no more to rise. What could have driven this stray bummer from the fellowship of its kind across the watery waste? Was it an apian Columbus seeking a way round again to its home, on a true principle and a false assumption, like its great progenitor? Hunger could not have moved it, with the meadow-sweet in abundance, and all the flowers of the field blooming gaily under the wondrous summer days. Surely a gipsy instinct is not inconsistent with a very domestic turn, and that even among the home-loving bees the wandering spirit finds occasional vent, for no breeze was stirring that could have driven them from home. Indeed, one straggler we saw vigorously breasting the slight breeze there was.

We have often had occasion to observe how recently many of our fauna have been introduced into our pseudo-island, and lately we found a curious instance

of the introduction of an insect. A good many years ago a lad who loved to hear the sound of the "cricket on the hearth" brought some over from Bunaw in a box to the Barcaldine district, where they rapidly throve, and whence they rapidly spread. We heard them calling vigorously the other evening from a farm steading in the vicinity, but we understand they have gradually retreated from the original home to which they were introduced, none having been heard for some time either about Achacha or the Mill, where they had become abundant. It seems strange to us this love for the by no means very prepossessing little creature, and reminds one of the little wicker-baskets with the enclosed "cicala" that may be purchased in the spring anywhere in the South of France. Those who hear the cricket here, or occasionally about the warm fire-place of their homes, cannot conceive what an absolute nuisance the somewhat similar cicadae become in the warm summer of the Continent. Although the classic poets rave about them, as our own romancers do about the cricket, we cannot conceive anything more intolerable to an invalid seeking rest in the stifling atmosphere of a warm Southern land than to have the night turned into a vicious orchestra by the multitudes of these insects, either perched on the trees outside, or seated at the entrance of their little burrows, piping with all the energy of a newly wound-up piping bullfinch. We have heard a score of nightingales in a small grove, all doing their utmost to charm, and yet making less aggregate noise than a garden apparently full of these irrepressible insects. It must be recollected that mature crickets, like the cicadae, are supplied with wings, and are by no means always the helpless little creeping things they sometimes appear to the uninitiated. We

Aug. 26.

Aug. 26. have never in this country heard anything to compare with the din of the cicadae, excepting in one hot summer, in a village near Liverpool. For some weeks during the prevalence of the heat, the village in the evening was pervaded by the continuous chirp of myriads of crickets, all apparently endeavouring to outvie their neighbours, and for a time we earnestly hoped that they might be of the extraordinary character of the American cicadae (*C. Septemdecim*), each brood of which requires the amazing number of seventeen years to arrive at its mature state, which all the individuals do within a few hours of each other! Whether the crickets in question all strained their lungs until consumption carried them off simultaneously, or with true English common sense gave the game up as useless, they all certainly ceased with the departure of the spell of excessive heat.

We have had our attention called to the departure, some weeks ago, of the few swifts that annually nest about the old castle of Barcaldine, and represent their species in the district. The swallows are still with us, and when noting the apparent inability of birds to acquire a knowledge of the character of glass, we left this homely bird out of our calculations! While watching the movements of a little tree-creeper on the stems of the trees in our God's Acre, through the windows of the simple little kirk, a swallow swept into the building through the open door. As it circled about it tried the windows again and again, so far as to fly towards them, but never once drove against the glass, evidently thoroughly aware of its impassable character. When at length it caught sight of the door through which it had entered it went through it at a dash, and without the smallest hesitation. This showed the house swallow, at any rate, had acquired a

complete familiarity with glass, and its own helplessness against it. Aug. 26.

Two groups of herons, numbering seven or eight in each group, were solemnly sitting, or rather standing, and basking in the sun, as we passed down the Sound of Eriska towards mid-day. They were some distance up from the shore, and evidently awaiting the tide going quite out and the great heat of the day passing. On our return we found the same birds all the way along the shore, at the distance of some eight or ten yards apart, diligently fishing at the water's edge; for the tide had now turned for more than an hour, and these birds knew quite as well as ourselves the great difference between a receding and an advancing tide. When the tide is going out all fish keep well away from the water's edge, not only because the smaller crustaceans and insects do so likewise, for fear of being suddenly left stranded, but because the fish themselves have the same dread. Thus they have no reason to brave the danger of a rapidly receding wave, and every cause to shun its treacherous ways of taking one step forward and two back! A most absurd sight it was to see those silent sentinels at regular distances, as if placed by a heron sergeant to watch the hoped-for advance of their prey.

The tide of the week has been exceptionally fine, and the sea-bottom has been exposed to an extent such as we have scarcely seen for a year or more. This has enabled us to peep once again into its treasure-house. We wished we could have cut out a square yard or two, just as it was, and planted it in Rothesay Aquarium, where it would have been a grateful sight to all lovers of nature.

SEPTEMBER, 1880.

Sept. 2. We have dropped down with the swirling current, which still runs strong, although the tide is near the turn. Here is a great bed of tangle showing above the rush of waters, and we leap out and anchor our boat, while we start off to hurriedly examine the wonders underneath, ere the rising tide drives us again to our floating city of refuge. It is no easy work dragging aside the masses of palmated tangle, with almost a tinge of golden syrup. The strong sea brine here colours all her children with the clearest and most vivid tints. The close-growing sponges are bright orange or yellow, and everywhere plentiful. Corallines are crimson as aught the flower-clad land can yield. Here are a group of star-like zoophites, a complicated commune, that upon investigation prove to be a multitude of individuals without any very definite individuality, for their apparently isolated exertions go to supply a general organisation. All are paid the same rate of wages, and do the same amount of work, and thereby represent the very summit of the ambition of a certain body of our working men! Many of the strong stems of the tangle have been chewed off, seemingly by some animal, but what it is that preys thus upon them, we are unable to say, although multitudes of molluscs of varied form exist upon the richly coloured fronds.

Here is one shaped like an old Greek helmet, and with beautifully irridescent stripes, that gleam in the water as the sunlight sparkles through. (*Halcion Pellucidum.*) But—here we stop suddenly and scarce believe our eyes! Have we not paddled on the sea-beach since

our youth, have we not spent day after day of our man- Sept. 2.
hood gazing down into its depths, or seeking to glean some ocean gem from its manifold but ever interesting organisms! And yet we never before met such a display, nor ever before fully appreciated why the early observers saw real flowers amid the wonders of the deep. We are looking down upon a great bed of mussels of very large size, on all sides surrounded by the luxuriant tangle. These bivalves with their customary moral depravity, are all lying edge up; and, even yet with the tide at its very lowest, the stream flows freely over them all. So-called barnacles (*cirripedia*) have lodged upon them and roughened their ancient backs, and many creatures deserving of interest are freely represented.

But we have eyes for only one department of Nature's wonders now, for scattered over them we find a multitude of sea anemones, such as for the first time in our experience make us appreciate the name. The slippery, brilliant-coloured *mes.* (A. Mesembryanthemum) or the sturdy *Crass.* (B. Crassicornis) are of interest always, although so extremely common; but these various Sagartia are beyond expression beautiful. Here a group are all brilliant orange in the centre, with surrounding tentacles of elegant white. Another has adopted a fine slate colour merging into violet, and showing with great delicacy through the semi-transparent bodies. Yet again we have an orange or pink centre with a dark ring around it, and an outer row of pale whitish tentacles, with a dark base to relieve them and complete the general effect. But the variety, the beauty, and the wonderfully transparent delicacy of these dwellers amid the tangle forests are indescribable, and we could have gazed upon them with ever-increasing delight, but for the ever-increasing

Sept. 2. waters, which now covered them to a depth that meant a warning to go. So, with a hastily-gathered handful of mussels with their clinging plants, now hurriedly closed from the sunlight, we reach our boat, and gloat over our captures.

These Actinia are indeed a never-failing source of pleasure, and we do not wonder that they have become such popular objects of study and amusement. Here is another group of a duller hue and a different character; they seem unable to wholly withdraw their very long olive-coloured tentacles even when lifted from the water. But these numerous vermiform appendages of the genus *Anthea* are yet deserving of close observation. Each has a delicate line throughout its length, and the points of the tentacles, as well as the bases occasionally, are beautifully tinted with delicate pink. Another of the same genus has a prevailing sea-green tint which is very pleasing. So we return homeward with our selections from the great handbook of ocean, satisfied that a new and a true pleasure has been opened up to us, and that the wondrously coloured genus *Sagartia* will yet be a charming means of cheating us out of a passing hour.

We have recently had our attention called to the curious effect of sympathy even upon plants, as we know a kind of physical sympathy is of importance in various chemical operations. If a certain chemical action is desired, its attainment may be greatly facilitated by the presence of another constituent more readily acted upon, whose presence will lead its companion, through physical sympathy, to follow its example. In a similar way the close proximity, say of a tall growing plant, will stimulate a plant of a more stunted character alongside to endeavour to reach more stately proportions. This is

quite commonly observed of plants of different varieties of the same species, and farmers have assured us that, in a large field, the rows of the short variety that come next to the more luxuriant kind, apparently imitate their growth, and assume their loftier character. If this is really the case—and we have no reason to doubt it—it is a very remarkable instance of that sympathy in the physical world, which, in its higher manifestations, plays such an important part in human affairs. Not only do varieties of a species thus act, but we find the rows of greens that are closest to our mass ofgigantic peas are endeavouring to reach their neighbours' stature, and straining themselves into stalks in the strenuous endeavour to rise. Sept. 2.

The rooks are thronging homeward in satisfied flocks these evenings, just skimming the surface of the sea as if they were so many swallows. Why they choose to fly so very low we cannot fancy, unless they are oppressed by the heavy weather of these hot days. They are all returning from the islands outside, where they have been feasting upon the crowberries, those fushionless imitations of the blaeberries, to which these birds seem particularly attached.

We find it a constant cause of debate in our own minds why such birds alter their course of flight so widely. These same birds sometimes return high over the hill tops in a living stream, nigh out of sight. Do birds find themselves affected like fish by the weight of the atmosphere, and rise and fall accordingly like living barometers? In the case of swallows the reason is simple enough, as they merely follow the insects which have preceded them.

We are well into a second summer. For a day or two we had overcast skies and a little indication of a return to Sept. 9.

Sept. 9. the old order of things, but again the wind has left the showery south-west and west, and a dry easterly breeze is giving the finishing touch to a harvest that is quite a month earlier than usual. The spring was exceedingly early, and the autumn promises to bring the beauty of the dying vegetation equally early upon us; so that the usual course of nature will be fulfilled, and early maturity bring early decay. Already the larches are quite yellow in places, and the bracken is no longer patchy, but occasionally wholly turned from its summer freshness into sad but beautiful fronds of yellow and venetian red. The wonderful weather, however, has given us almost an American harvest, so rapidly have the stooks been removed from the fields. We can fancy the disgust of the embryo Linnells engaged upon fields of golden grain, in richly scattered rows of stooks, to find that in a couple of days they were removed into the farmyard, and Othello's occupation gone for a time. Not only has the crop here turned out well, but the saving in labour from such a splendid spell of harvest weather must materially add to the estimated value of the returns.

Never do we recollect seeing Connel Falls in finer condition than yesterday, that is to say, flowing equally well in both directions. As we crossed about mid-day it was sweeping merrily seaward, with its crest of foam reaching nearly across, excepting where the rushing torrent near the southern shore flowed deep and strong. Rapidly approaching from Loch Etive came a boat with two rowers, its mast standing, with a piece of the furled sail dangling free near the peek. The sun shone brightly on the boat and the waters, and it swirled slowly into the central current, and passed downward with a rush,

demanding vigorous rowing on the part of the occupants to keep its bow straight. Sept. 9.

But we are now ourselves on the boiling eddying waters, and well up towards the falls the rowers have to go ere the landing place on the further side could be reached, as the boat is swept downwards while the rowers toil across. On our return in the evening the tide is about the same position, but flowing in place of ebbing. So the fall is quite the other way, but with equal energy in its waters, and our well-laden little ferryboat has to row straight to seaward for a considerable distance, that the powerful inland current, hurrying with breathless speed from the Atlantic to fill the basin of Loch Etive, may carry the boat to the landing place. And midway between our visits the water would flow calmly, sweetly, and smoothly, although swiftly seaward, and the train-loads of tourists, thronging Oban-wise, would crane their necks and strain their eyes, as we have seen them do, to catch a glimpse of the wondrous waters that flow through the land of Ossian. And of course they would see nought wonderful, or at least nothing noticeable to ordinary eyes, and the Falls of Lora to them would be nothing but a wild Celtic imagining.

While rowing up the shore a few days ago we heard cries of distress overhead, and observed two birds among the tree-tops in a violent controversy over some question of precedence not apparent to outsiders. That the cries came from a hawk was clear, and one of the two was a sparrow hawk to all appearance. The other was only a rook. At first we could not believe that the rook was the pursuing party, as the time of nesting was long past, and we could not imagine any other cause than alarmed maternity to stir up a rook's courage to such a point; but

Sept. 9. it was soon demonstrated that the rook was really the assaulting one, and the hawk dodged round the tree tops, and rushed, calling in terror from point to point, pursued by its sable enemy. We watched them until both disappeared over the woods, and could scarcely credit our eyes, for we have repeatedly seen the hawk tribe driving the corvidae before them, and did not understand that the reverse very frequently occurs. We have seen a Peregrine falcon drive a pair of ravens in abject terror, screaming, into a niche of the rocks for shelter; and yet a number of rooks will greatly harass even the eagle, which is not nearly so capable of active movement as these smaller adversaries. But we suppose, although it is a component part of the national creed that "Britishers" can always thrash "Foreigners," still there are individuals among us who, it must be allowed, might not be able to hold their own against individual Frenchmen or Russians! So it is, doubtless, with classes of animals, and we have frequently seen both crows driving seagulls to extremity, and the reverse, depending upon the individual members of the several species. Thus, too, although rabbits are considered the natural prey of the cat tribe, we have known good tame rabbits that did not fail to drive off the most vigorous feline intruder.

The squirrels, who were our constant companions along the woodland roads during the last autumn and winter, have almost disappeared during the summer, nor do we know what they are at present living upon. The winter stores must be over, the autumn fruitage all gone, the spring shoots of the fir-trees no longer young and tender, but partaking of the bitterness and harshness of the parent stem. We have never seen them attack the rowan-berries, the only fruit lately ripe; and the brambles, now

blackening pleasantly along the hedgerows, are equally free from their depredations. Only one have we seen of late, dangling from the bending boughs of a small hazel-nut tree, where the recklessly luxurious or desperately hungry creature was engaged upon the as yet unfilled kernels. We have gazed in vain for them among the tree-tops, but the eyes now meet in place the exquisite bloom upon the Douglas fir, as if dusted with a light spray of silver, which glistens in the sunlight and throws a beautiful sheen through the woods. These and other species are rightly termed "silver firs," as this is the most distinguishing characteristic of the class. Sept. 9.

Barcaldine has always been famous for its woods, indeed takes its name therefrom; and we have evidence close by that the soil and climate alike retain the qualities necessary for the rapid growth and full development of most of our ordinary forest trees. A large group planted about 17 years ago is now from 25 to 30 feet high, a large proportion of them being of the latter dimensions! We should think this is equal to anything in Scotland for rapidity of growth.

"Thou wert that all to me, love,
For which my soul did pine;
A green isle in the sea, love,
A fountain, and a shrine." Sept. 16.

It was impossible not to sympathise with the above expression of admiration, and intensity of feeling towards a "green isle in the sea," as we sat on the knoll amid the heather and the bracken, and looked forth on all the wonders of land and water, visible from our sea-environed point of view. There was such a rush of feeling elicited by the mere fact of the omnipresence of nature, pure and

Sept. 16. simple, and the extreme poverty of man before this same wealth, that pressed upon the imagination in every wash of the wave and surge of the tangle fronds, aye! in every curve of the graceful bracken, and every tint of the luxuriant and varied heaths around, that the eye could scarcely appreciate the component parts of the scene.

To lie on the hills "like gods together" was the most natural result of such beauty to most minds, and as our eyes wandered up the front of the cliffs to the summit of the pigeon-haunted rocks, they met an array of bearded faces looking down upon us with old world solemnity. Long white beards, and long black beards, and eyes full of gentle wonderment, would have deluded us into the belief that we had fallen upon the lovely lotus land, were it not for the pan-like horns that curved upwards from the wise-looking heads. So our pleasant delusion was rudely broken, for it was merely a flock of goats that had arrived to add interest to the scene, where they could neither damage branch nor stem, nor carry their sadly destructive tendencies further than in digging up the turf with their sharp hoofs.

Yes! we did enjoy that lounge on the turf, for nowhere do we know of finer-grown heather than in that little ocean isle, and those interesting spiders each sat in the centre of his net, and every now and then shook it vigorously, as if a breeze were sweeping through the little nooks, where breezes so rarely reached. All the more did we enjoy the lounge, for Linnhe had been especially aggravating, and the swift, strong current that drove us in the teeth of the breeze had raised such a turmoil, that the struggle at the oars did not blind us to the pale faces of those who loved not to be nursed on the cradle of the deep.

Circling in a great sweep round us, as we crossed the Sept. 16
water, a sheldrake, with its strong flight and gay plumage, attracted our attention; and as we approached a range of uncovered ocean rocks, cormorant after cormorant craned its neck towards us, and with a forward drop went head first into the sea, to come up afar off with most inhospitable feelings towards us. But we have seldom seen such a dearth of birds; the summer visitors had gone, with the exception of one solitary tern, still skimming gracefully about the breeding islet, which had lately been alive with their young, and overhead vociferous with the anxious parents. The winter visitors had not arrived, but we have since caught sight of some of the advance guard of ducks, that leave the colder north with their families, and enliven our shores with their varied plumage and equally varied notes.

However, if birds are scarce and otters invisible, and the head of only one seal appears above the waste of waters, to scan with calm and gentle curiosity the strangers on the rocky shore, still all have found extraordinary appetites, if nothing else. To see the group in the airy cave, as they turn their backs to the smoke of the wood fire, that is doing its best to close our eyes to our neighbours' encroachments on the viands, you would well understand the tremendous appetites of the regular frequenters of the island. Black-backed gulls, every one of us; and the way the potatoes and peas from the teeming soil of Benderloch, were aided in their descent into "avernum" by the varied gathered titbits of a field picnic, determined us never again to scoff at the greed of the cormorant and the gull. Why, creatures continually under the stimulus of sea water and sea air must be perfectly ravenous as a normal condition, and the manner

Sept. 16. in which the young black-backed gull we recently brought from this same island is catered for, amply proves the hereditary transmission of the usual power of omniverous and ever-present appetites.

We are now entering into the season of wild fruits, of which the most valuable and agreeable are the hedge-row plants of Scotland and England—the bramble and the damson. The latter has been for long one of the most favourite fruits as a preserve; but, strange to say, the bramble is only now coming into favour with the multitude, although in many respects the finer fruit. It seems unaccountable that, with our dykes and hedgerows, our little woodland dells and rocky clefts, hanging with "blackboids" in multitudes, they should yet cost three or four times as much per pound as the English fruit we are obliged to import. Surely their garnering has been greatly neglected; for although so much smaller than the damson, they are even more widely spread, and should cost little more to gather. This wild-fruit harvest has been long much more carefully attended to in England than with us, and more especially in the Highlands we might have our poor crofters making a welcome addition to their yearly income by sending south a few hampers of this delightful preserving fruit. We pulled quite a nice handful between two or three weeks ago from where the bushes lay on the front of the cliffs, and received the hot sun reflected from the rocks, ripening them quickly.

There is an especial charm about wild fruits, such as blaeberries and brambles, and if they do stain the teeth and lips, it is not absolutely irredeemable. We could not gather a good flagon of blaeberries this year, we believe, throughout all Benderloch, and yet we remember spots elsewhere in our youth where we could have done

so without moving more than a yard or two. We cannot Sept. 16.
account for this, unless sheep, deer, and cattle combined are really too much for the luxuriant growth of the beauties. These seem to be dangerous enemies to the mushroom, as, unless we culled a few here and there in a young state ere the animals discovered them, we would not get one at all. Leave them to mature, and they are gone next day.

The house-martins are still circling gracefully around Sept. 23.
our neighbourhood, and yet two days ago there was a distinct fall of snow in the vicinity of Connel. Yesterday a very heavy rainfall in the morning brought mild weather back, and the summer day may again delude the birds into supposing the grim season is more distant than it is. We cannot make any such mistake, for do we not look out upon two sentinel bushes, in the summer brilliant with wild roses, and now almost equally gay with the multitude of bright-coloured hips that hang in clusters all over them. We should have expected the martins to have left us ere this, as the swifts departed quite two months ago. But the smaller species often remain in England until the middle of October, so we may look for them keeping with us also for a time longer this season. But the winter birds have really come. As we look out upon the dull-coloured beach to-day, with the tide slowly receding, and leaving stretch after stretch to the prying eyes of the runners and the waders, more than our usual summer visitors are visible. The gay plumage and restless energy of the oyster catchers on their favourite sand-bank are never wanting to our seascape at low water; and there comes a bird with business-like flight; and with a few sailing curves, and an extra flip-flap or two, it draws

Sept. 23 up its petticoats—beg pardon, its wings—and drops neatly on to the wet clay bank by the stream. That, too, is only a curlew with its great probe of a bill, and there, you see, are several others at various points, wading well out into the water, and sinking their long curving probosces until nothing appears above the tide but a bit of brown back and a tail. But there is something we have not seen for a time! Even the dull light glints gaily from the plumage of that active flock of sanderlings that come with a united sweep and drop simultaneously on the very verge of the tide. But for their extreme nervous activity, it would be impossible to recognise their whereabouts, until suddenly, without apparent cause, but by an instantaneous general movement, the whole flock skims off within a few inches of the water, and lands farther along with another curve, like that of a skater on the outer edge. They are really beautiful creatures as they flash in the daylight—sunlight there is none—and they are possessed instinctively, or by the necessities of their construction, by a true artist's wholesome horror of straight lines. Their slightest movement is in a curve, and their most complex evolutions are performed with the promptitude of a crack regiment under the word of command. Woe betide the numberless little stranded crustaceans, mostly of the shrimp kind, that are ever left by the receding tide, and fill the little pools along the foreshores. The entrance of a large quantity of richly-freighted fresh water into the sea in front, and the extensive flats left bare, first provides a great quantity of food for all species of birds, and then enables them to reach it gradually. There come the beautiful white breasts of the gulls to join the hospitable feast, and they spend their time between sailing on the surface of the

stream, wading on the beach alongside, or scampering Sept. 23.
over the sandy banks. See! that one has infringed on the domain arrogated to itself by a long-nebbed curlew, who attacks it resolutely. The gull flops from it into deeper water, to be again and again driven further off from Mr. Curlew's happy hunting-grounds. But the gulls do not dare to wade as do the curlews, nor, indeed, are they formed for such work, their light, buoyant bodies being better adapted for procuring flotsom, or hurriedly rushing after jetsom. Still further out appears the occasional flap of a heavy wing close to the surface of the water, and soon the sentinel form of a watchful heron erects itself with stupid solemnity to complete the string of life. Never are any of the other birds still for many seconds, and in the dull light of the leaden day their shadows, as they are flung upon the lazy stream left by the receding tideway, appear of most excessive and ridiculous dimensions. Now a sanderling looms out like a heron, while anon a heron shrinks into nothingness, as all in silent activity—rarely broken by a cry to-day—throng seawards with the tide. The steady, dull mugginess of the day seems to have effected all outward life, for the activity of the birds is unrelieved by the joyous screams and cries of stomachs filling in the sunshine. Are they afraid of catching sore throats, or merely deficient in exuberance of spirits? As we look out at their sprightly movements, despite the steady downpour, we envy them their light, efficient waterproofs, with the supply of oil that all carry wherewith to trim their plumage.

When the entering tide banks up the stream, we frequently find wild sea-ducks within a few yards of our door, and the fear of finding ourselves "purchasing" a game bag—and the suspicion of our neighbours at the same time

Sept. 23. —has more than once saved these wild visitants from an untimely end. Yesterday at high tide, as we went out, a great splutteration drew our attention to an escaping duck, that had been feasting at the bottom of the stream. Its departure, aided by feet and wings, was so rapid that we could do no more than "believe" it was a goosander, the first we had seen this season; and, even although the same opportunity was repeated a short time after, we could not really certify as to its species. We have never ascertained what it is they especially seek at the spot, but all kinds of wild ducks, and ducks both wild and tame, are willing to risk much in order to enjoy a quiet "good time" at the muddy bottom.

This same stream, as it proceeds seawards, is a capital field for the study of the gradual progression of marine vegetation into that of the land, as well as an evidence of the manner in which nature accommodates itself to circumstances, and gradually alters the constitution of its various productions to suit the altering conditions of their existence. Seaweeds of the littoral species grow in quantities as far up this stream as the tide extends. Although for the most part subject to a continuous covering of fresh water, excepting for a few hours a day; or even left bare by the tide and the stream alike, until the brackish combination of the two creeps over them for a short and uncertain term, they yet have learned to make the most equally of the diminished time and of the diluted brine. Like Esquimaux driven towards the North Pole, they may be stunted in size, nor over exuberant, but they appear, at all events, healthy and robust.

Along the margin of this same stream the division between the marine vegetation and that of the land is marked enough when looked at broadly, the dull umber

hue of the melanospermous sea-weeds making them sufficiently distinct from the most fleshy-leaved plants of the shore vegetation. But the fronds of sea-weeds, as they creep shorewards, lose more and more of their original ocean character, becoming lighter of tint and less fleshy; while the shore plants, equally stunted by the presence of the spray and the salt water whose absence stunts the sea-weed, gradually approach the latter both in the prevailing colour and the thickening leaves. Sept. 23.

That instinct is a blind law in our nature, driving us towards a certain course of action, becomes to us every day a less satisfactory definition. That every dog has an especial aversion to cats, and the cats an equal detestation and fear of dogs, is quite an article of faith with many; and yet we have just seen a cat and dog sleeping together, without any training, or endeavour to overcome any previous natural feeling; while a much older dog accepted the position of affairs as most natural, and formed one of a loving trio that seemed in nowise aware of any cat and dog "law" or "instinct" save that of mutual goodwill and loving-kindness.

From all sides comes a cry of apple blossoms on the same trees with the ripe fruit, as if the apple trees were desirous of emulating their southern friends the orange trees, on which blossom, green and yellow fruit all thrive together in friendly consort. Benderloch, from the Bay of Naisi to the old Priory of Ardchattan, can show a fair proportion of such blossom, whatever may have caused its appearance thus late. It has been suggested, with apparent reason, that the appearance of blossom now is more the result of the late and cold summer of 1879 than the warm and early summer of 1880. The buds that Sept. 30.

Sept. 30. would have produced blossom in the spring were retarded, and then checked, by the want of sunlight, and are only now blooming, having taken the present summer to recover and mature, it is argued. This may be so, but will not account for fresh blossom on the peas and the strawberries! The butchers' broom, which ceased flowering months ago, and shows an array of dark pods, has just been throwing out fresh leaves, and in a few instances fresh flowers. These are all clearly instances of the extreme vitality of a summer such as we have had, wherever a supply of moisture has accompanied the heat. This has been the case with us, as we have not suffered the excessive drought experienced elsewhere.

As an instance of our energy of soil and climate, we have an apple beside us measuring upwards of thirteen inches round, in any direction, and turning the scale well at a pound weight. This is surely a good result for the open air in the North! Another very evident result of the heat and moisture is to be found everywhere in the unusual growth of fungi of all species. They swarm over the ground, of all sizes, and ought to make the efforts of the Cryptogamic Society this year successful in the way of a brilliant display of this section of "flowerless plants." As we stood under the pier at Port-Appin yesterday our attention was called to a growth on the wooden floor of the pier above us, and this proved to be several fine large specimens of fungi that had grown downwards from one of the joints of the floor, and then, with their inborn aptitude for a given position, struggling round until they found themselves head up as well as foot up. When dragged from their ignominious posture they were found to have originated near the upper side of the pier, but, unable to get out, had grown downwards until they could

assert the fungus prerogative of opening their umbrellas upwards. Many plants will thus twist themselves in order to reach the light; but it was clear that, having reached the light by growing downward, they then asserted their original claim to upright position without further reference to the light, but merely from inherited habit. Sept. 30.

We lately noted the absence of the squirrels from their usual haunts, and wondered what they were finding at present to exercise their ingenuity and teeth upon. Last year we had a very fine crop of beech-nuts, which ere this were being most sedulously thinned by the energetic attentions of our little friends; but this year the beech is mostly barren of fruits, and the oak tree, which last year showed scarce an acorn, is this year much better supplied with "mast." Here, then, we have a source of food supply for the squirrels, which, by the reckless profusion of teeth-marked acorns now strewn in patches through the woods, they have clearly not been slow to avail themselves of. We were lately assured by a young man that acorns were "very nice eating," although we had always pitied the Arcadians who dined thereon. But what will not a youthful palate and stomach delight in and endure! The same youth, with some companions, all of whom would have scorned anything but the daintiest diet *at home*, enjoyed themselves heartily up a tree eating a raw cabbage! The hardest part of the "custock" was the only part they shared with the friendly cow that sympathised with them below.

Not only are the beech trees this season destitute of fruit, but the hazel trees are almost wholly a failure as regards nuts. Those that covered the trees last year were never filled, and were consequently failures, so that two

Sept. 30. years in succession there has been a deficit in that nut crop that children and squirrels love in common.

Families of goosanders are scattered among the bays and inlets of the loch, and as we skirted the larger bays, with extensive mud flats, we raised large flocks of mallard ducks, which have settled down in community much earlier than usual. These, along with the multitude of herons and oyster catchers told of a successful breeding season, and the "Wild Birds Preservation Act."

Whence arises phosphoric light, has often been a question alike to the vulgar and the scientific observer. In many cases its presence is not easily accounted for, and indeed the name is applied to a peculiar light from very different sources. The appearance of a herring in the dark, or any fish that is somewhat decayed, gives the most common example. What is the exact cause even of the phosphorescence of the sea, or whether it always arises from the one source, is not clearly known, although it is believed to be largely owing to a minute medusa, or some such simple organism. As we sat behind the pony that drew our trap slowly across the brackish inlet we were surprised to find that, in the dark, even the diluted salt water flung sparks about the wheels in quantity, so that such marine creatures are not destroyed by the influx of fresh water. But we are aware of so many sources of a peculiar light that it is difficult to acknowledge them as the same in character. Thus, some species of fungi are distinctly light producers in the dark, as well as many species of marine animals, and during our walk through the dark woods the other evening we came upon what appeared a salt herring lying in the road. On turning it over with our feet it seemed sloppy, and we foolishly passed it. A few yards farther on another brilliant streak

of light arrested our attention, and we this time decided Sept. 30.
to attempt its capture. A piece of paper was employed, to prevent an unpleasant meeting, and we then lifted most circumspectly what proved to be neither more nor less than a piece of Scotch fir from one of the fallen trees alongside! Apparently a new break was the phosphorescent surface, and the night being wet as well as dark, we supposed this had some influence. After drying it next day we again tried it in the dark, and it still showed brilliantly; so the wet had nought to do with it. Under a lens no fungus could be seen, only the rough broken fibres on the surface. The phenomenon was quite new to us, and added another to the many sources of specially reflected or chemically stored light that we had made acquaintance with.

OCTOBER 1880.

Monday was a remarkably fine autumn day, with but a Oct. 7.
very slight ripple on the water, so we set off to see what could be seen along the seabottom near the verge of low tide. The water, from the long absence of wet weather, was very clear, little fresh water entering the loch; so we could peep over our boat side at the various marine creatures as if they were in an enclosed, in place of a very extended, aquarium. The most prominent fact that we observed was the presence of an infinitude of young life, as if the sea, like the land, had thrown a springlike crop through the long-continued warmth of the autumn. But we have not this season seen the masses of medusæ that are occasionally observable, although some of considerable size, and others of youthful proportions, were lately

Oct. 7. noticeable. These are always a source of interest to an observer, and if the youth who frequent our seashores in the summer were but to examine the creatures closely, and note the movements of the numberless ciliae, as it continues uninterruptedly its seemingly automatic action, they might be tempted to trace its strange career, and be led thereby to a deeper understanding of the life around them.

Not only do the medusæ seem to be represented mainly by matured specimens, but the only starfish over large stretches of ground are of enormous dimensions, each with a certain stretch of exclusive hunting ground around it. On shore, among the rocks, we find still a few baby stars of only a quarter-inch across the longest diameter, inclusive of their stumpy fingers. But if young of many species have this year been numerous, those of the oyster are almost invisible. Have they become exclusive, and too aristocratic to have large families any longer? Certain it is that in the West of Scotland, as in the rest of the kingdom, a good spat has not been seen for some years. It need not be concluded from this that the bivalves have not thrown spat, but that it has not vivified from some reason or other.

Whatever may be the case with other shellfish, the omnipresent barnacle threw young early, and they have grown apace. The oyster itself has this year grown amazingly, the wide white delicate frill telling of plenty of lime and great activity in its secretion.

Meantime we are following up the line of an apparently ancient beach, out from the shore, until we come from the region of thickly-grown tangle which clings to the rocks and stones, and emerge upon the long stretch of muddy sand, on which the *Zostera marina* grows

freely. This grass generally thrives exactly beyond low- Oct. 7.
water mark of spring tides, and, when it is exposed by the tide, we conclude the water has receded better than usual. Here its leaves are still below the surface of the water, which is from four to six feet deep beneath us. The seeding of the zosteræ has long been a question of interest, as it differs in this from the ordinary algæ, so we remark with the greatest interest that the ends of a large number—indeed a large proportion—of these green leaves are crowned by beautiful lavender flowers, which may yet be seed vessels, although we can scarcely conceive them to be so. Somewhat startled with this phenomenon, we eagerly endeavour to obtain some of the heads for examination, but they stick firmly, and are just beyond the reach of our hands. Surprised at the manner in which they slip through our instruments, we at length draw one near enough to grasp, and the astonished exclamation of our assistant that "they are quite slobbery" prepares us for the fact that they are really living creatures. Clinging all over the leaves of this extensive field of sea grass were to be seen these violet-tentacled sea anemones in multitudes, mostly well-grown specimens the size of half-a-crown and upwards. That they had come there and grown there in a season was our first impression, as we could not suppose that such creatures could or would crawl over a muddy ground and clamber to the top of these leaves. It seems much more likely that they were carried there by the tide when minute specimens. But we can scarcely believe them to have grown to such a size in a short season. We recollect seeing similar growths on the zostera last season about the same time, but neglected to procure specimens; and never imagined for a moment that they were other than

Oct. 7. they appeared, the flower or "fruit" of the plant they were affixed to. Whether from growing where they must have lived mainly on the more microscopic and less gross animal products of the sea, or from their specific character, they are very delicately organised specimens. The foot is remarkably delicate, and beautifully rayed from the centre, the same lines being continued up the transparent inflated body.

These long sea grasses seem to have an especial attraction for some marine creatures, as in two other bays we found them literally covered with spawn, of some species of fish seemingly. It had all the appearance of some shore fishes, but the particular species we cannot certify.

To-day we have been all along the shore at low tide, in order to ascertain, if possible, the progress of the young of the various shell-fish. The wind has been throwing a considerable sea directly on shore for some days, and so would also have strewn the beach with the young growing bivalves had they been numerous. We were surprised at the paucity of the young of mussels as well as oysters. The former were securely lodged in numerous pools along the rocky portions of the coast, and although there well situated for securing their families, there were none. The young limpets, too, so easily recognised upon the rocks, around and about their parents, were not forthcoming; so we were reluctantly obliged to confess that, in spite of many apparent advantages, this summer had not been suitable for the reproduction of the order. Mussels will grow at most remarkable distances above the height of ordinary tides, although they grow slowly and never attain any great size, while in little pools where they are left covered, but tranquil, between spring tides, they thrive remarkably.

The jays, who have been absent from us during the summer, hid in the thickest cover at their parental duties, have at length returned, and startle us with their harsh cry along the frequented roadside. Oct. 7.

In spite of threatened American gales we have charming weather, with every prospect of a continuance; for the tide has been remarkably good, and we have seen spring tides inferior to those we have had lately with a half moon. This is very frequently a good indication of settled weather, so that we do not fear any sudden change, although the glass and the sky were alike unsettled-looking yesterday. The result of the fine weather is that labour is unobtainable for any purpose. Every one in this part of the world owns a potato patch, and the lifting of the produce in this quarter demands all the labour the district can muster. The use of the plough in lifting potatoes is not customary here, although universal in the East country, and a great saving of labour. But here they "don't believe in it," and consequently are obliged to toil at the graip day after day, old-fashioned as it is. The modern potato-lifter—such a great advance on the old methods—is only in use in one or two places, and fields must be reasonably level to permit of its use; as this is impossible on many of our crofts, and even our larger farms, much labour apparently must be expended meantime. Oct. 14.

But the magnificent weather of October—the really finest month in Scotland—has done more than enable us to harvest our splendid potato crop without delay or inconvenience; it has given especial excuse and opportunity for those who love ease and beauty to enjoy both thoroughly. Only to stroll a short way up the hills

Oct. 14. around will bring before the lazy pedestrian scenes of beauty such as few can find elsewhere. The blue and purple of the mountains is sharply defined against the sky, and every crag and corry, every grassy slope and bare scaur, every feathery clump and daintily fringed glen, stand out clear and distinct as we can never see them in the sunniest days of the sunniest months of the year. Then there is no harsh colouring anywhere in the vegetation, everywhere there are Alma-Tadema neutral tints, gracefully and artistically blended on a palette that never errs. The white, sunlit country houses, too, are sprinkled over the scene sufficiently to give life thereto, and indicate humanity, without thrusting man's bald creations too rudely upon the view.

Looking towards the Appin shore, after clambering upwards with the eyes bent upon our Benderloch, we are struck with the difference between the two sides of Loch Creran now. As we ascended our own side, the foliage was all beautifully tinged with the touch of autumn—rich browns, delicate yellows, and softened greens prevailing along the hillside, telling of the sharp northerly winds that have blown for a time, and nipped their weakening currents. But on the Appin shore the foliage is quite ten days fresher and greener, although it was even earlier on the field than our own. This was evidently caused by the southern exposure, and consequent security from the nipping northers that had urged on our decay. Still our hill showed signs of unusual activity, and we came upon a little potentilla, new grown from the root, as evidence of the fine season. It is really a charming walk over the hills at this season, as we found to-day. Here is a study for an artist. Hanging on the hillside is a little stunted, delicate-limbed birch tree, with its leaves

yellowing here and browning there, the grey-blue rock Oct. 14.
forming a good background. Scrambling up through the foliage, and hanging gracefully over from its various slim branchlets, is a bramble bush, with some teeth-watering ripe bunches of blackberries, thrown into relief by its unripe comrades of all shades from green to red. This was fine, but would not have arrested our eye, nor demanded our attention, even although we were directed thither by the appearance of the brown hare that came hirpling forth, and with ears down, and manifest trepidation, skulked around the neighbouring "knowe," and went scrambling through the haggs. No! it was the wondrous beauty of the leaves, added to the general effect. We never witnessed so charming a combination, or at least never were before arrested by it. The leaves were to a large extent of a prevailing rich purple, with streaks of yellow and red, and patches and touches more especially of a rich green. The vine! the vine! indeed, there never hung more charming bunches of berries in a lovelier shelter amid the "palms and temples of the South."

Our anemones quite changed colour, and, becoming disorganised, apparently curled up altogether during the late cold winds, but on the change of wind to the west, and the milder character of the day, they gradually opened out, and swelled up to their former dimensions. Whether this was caused by their confined place of abode, which would more readily be affected by change of temperature, we cannot say, not having an opportunity of seeing those outside in the loch under similar circumstances. The vermiform tentacles we find in a goodly number of cases to be new growths; these being of a paler colour and weaker appearance than their neighbours, and also show-

Oct. 14. ing the joining whence they commenced anew, as we have seen in the case of starfish. The renewal of limbs in all such lower life we have found to be badly done, and to show evidence of where they were lopped off or injured; it is never an exact reproduction.

In the hedge in front of our door, as the leaves are thinning, a wasp's nest has shown itself, of the size and shape of a good-sized turnip. This is now quite empty, the owners having evidently quitted it some time ago; and it is further excavated out. Whether this has been done by some bird merely in the pursuit of its inquiries after its daily bread, or whether it has been so entered burglariously with the express purpose of devouring the embryo wasps, we cannot say. While wasps were exceptionally numerous at the beginning of this season, and their nests were begun in multitudes all through the woods and hedges, the seemed in very many instances to have been destroyed by other than human agency, for towards the end of the season neither the insects nor their creations were excessive in numbers.

The West this year has been blessed with a remarkably dry season, so much so that we have no doubt our rainfall is very greatly under the average, yet the country has not been nearly so *dry* as accurate observers have witnessed in former years, with a more liberal supply of rain. We peeped into our little spring well this week and found it well filled, although the country had seen no rain to speak of for long; and as we traversed the hill slopes at the beginning of the week, the bogs were by no means athirst. The reason for this is, that all through our fine season there has been a liberal supply of dew all over the district; and one could not cross the grass al-

most any time after nightfall, or before the sun had stop- Oct. 14.
ped yawning in the morning, without wetting the feet.

The little coletits have been very busy among our curly greens in the garden of late, and we must suppose there has been a sufficient inducement in the way of insects or caterpillars to cause them to expend so much energy and activity upon them. Since the sharp wind and frost, they have gradually migrated to the young trees in the neighbouring plantation, where insects are better protected; until such time as the tits discover their whereabouts!

We had strong frost and severe north-east winds Oct. 21.
yesterday, curling up our more exposed anemones into the mere epitomes of their usual selves, and to-day the hills around have quite a coating of snow. The northerly storm came on quite suddenly yesterday, as the morning sea was calm as glass, and we had gathered together our apparatus for a day among the wonders of ocean. Indeed, our first greeting in the morning was the announcement that there was no "water" in the loch, and this, along with the calm weather, and the tide at its best in our loch, surely gave promise of a good peep at Neptune's hoards.

No water in the loch! don't suppose that this means our sea view being suddenly turned into dry land, as if another Moses were desirous of crossing. No! it only meant that the long absence of rain, and dry season generally, had left the loch basin wholly to be filled by sea water, which is clearer and more transparent the less admixture of "water" there is from the streams and rivers.

The boat is scarcely launched ere one of Kingsley's

Oct. 21. black nor'-easters is upon us, and we strain at the oars in its teeth for a good spell, only to be driven back for fresh oars, as the warning "crack" tells of the awkward predicament of one side oarless in a rough sea.

But we get across the loch, only to find the wind as persevering as we ourselves; so we are forced for a time to wander about the pools on the foreshore, and feast our eyes on the woods of Barcaldine, fast losing the glory of the past few days.

In the pools there is plenty to interest, and much that is always novel to note. For are they not real aquaria some of them, only replenished with water every spring tide? Here, too, we can observe the reason why some aquaria are successful and others not so, for do we not find the same inequality of conditions among these same rock pools? Here is one or two too full of marine jetsam to permit of the contained water remaining oxidised, in the midst of decaying vegetation, for any highly-organised animal to live in it. Another has just as much as it can safely hold, and only keeps its equilibrium through the plentiful growth of green ulva, that continues to supply the water with the needful oxidation. There, again, is one that can easily support abundant life, although at even higher elevation on the rocks, a very slight growth of the same chlorosperm sea-weed being sufficient to purify its crystal depths. One of these pools, at the very highest elevation, is quite full of anemones, which have evidently retired thither from the rude buffets of the outer world of waters, and are surrounded by a progeny of all sizes from that of a pin's head.

The intense cold of the wind has sent all the whilks and periwinkles under the shelter of the rocks and sea-ware, so that scarcely any are to be seen. Here, behind

a large boulder, however, we find quite a little gathering Oct. 21.
all sheltering on the lee side, to which they must have retired in due anticipation of the gale! We withdraw from their hold some of those that are in little crannies at the upper part of the rock, where they will be for a long time out of the water; and these we find to be well supplied with a reservoir of water to keep them going until the return of the tide. The dull, dirty white of the shell is relieved by a brilliant *operculum*, or leathery foot-covering, with which to close the orifice; but this does not close out a little parasitic creature that dodges us dexterously, as we endeavour to entice or capsize it out of its retreat in the drop of water contained in the shell. When finally removed, we find it by no means a sluggish individual, but a lively little crustacean that jumps with the activity of a flea. Thus, in every direction that we can turn, we find a little world of energy, ingenuity, and apparent intelligence capable of making the most of their, occasionally, by no means easy situation.

We have before remarked upon the quantity of spawn on the *zostera marina*. To-day we have had still greater cause to note the seeming suitability of this grass for the deposit of spawn. Whole stretches of it were literally covered with the soft gelatinous masses of some fish spawn. What can be the reason for the choice of this plant? Is it that the firmer texture renders it suitable for depositing the spawn on the roughish blades, when ordinary seaweed would be too soft and slimy to supply the same physical advantages; or do the creatures know that this grass is more likely to survive the winter, and resist the assaulst of storm, than the ordinary *fuci* of whatever kind? We can scarcely fancy this last; but whatever the reason, the fields of zostera are certainly

Oct. 21. favourite breeding grounds for some classes of marine creatures. A large field of *fucus serratus* we saw lately white with the little delicately-curved homes of minute serpulæ, dainty little creatures, in positive myriads. But the really wonderful shore-growth is the rock barnacle, which covers, in some places, actually every square inch of rock and stone. These beautiful creatures will fix themselves to and thrive upon anything at the utmost reach of the tide; and let anyone scrape off some of the dried-up, wizened-looking growths and they will find they contain, at any height on the rocks, a good supply of moisture!

We are by no means amiable as we once more push the boat into the current, and re-cross the loch to seek a quiet haven. On the way a head is suddenly popped up among the chopping waves, and, an oar being exchanged for a shot-gun, a lovely white breast, that soon appears to belong to a Rotche (*uria minor*), is floating on the surface. This is a comparatively rare bird with us.

Of late we have been endeavouring to analyse the various species of trees, whose fading leaves beautify the hillside. Quite foremost of all for rich crimson hue comes the wild cherry or gean, whose intense colour stands out boldly on the hill. Next comes the mountain ash or rowan, only second to the wild cherry in brilliance of hue; while the graceful birch is little behind this again. It is noticeable, as we have been assured, that the higher on the hill the more brilliant is the birch. This is from being more exposed, and therefore the sap more suddenly checked. A peculiarly beautiful lemon colour turns out to be an ash tree on the wane; the oak is a prevailing yellow ochre and burnt umber; the lime tree equally delicate in yellow tint, but yet unequal on

the whole to the ash tree. Other trees do not quite re- Oct. 21.
tain their specific character in colouring; as some individuals act quite differently from their neighbours, according to the particular extent of exposure.

But the subject is an interesting one, and it might repay an observer to pursue the subject of how Jack Frost's fingers pinch the prevailing green of the woodlands into such an infinite variety, with a yet distinct specific character, showing that a peculiarity—in the sap probably—of each class of tree influences the result of the attack.

The wind, which has had a prevailing north-east Oct. 28.
tendency, shifted round so as to give us a day or two of rain; but this did not last, and now we have had several days of a severe north-easterly gale. The snow, which has lain for some time back on the hills over Glencoe, has gradually been creeping closer to our vicinity, and now we have our immediate neighbourhood to the east well covered.

The result of this severe gale, bitterly cold as it has been, is seen in the sudden wintry appearance of all the country side, and the glory of the October leafage knee-deep in the ditches, and covering our boots with their still present beauty on the paths through the woods. That the gale was anticipated by the birds was clear enough, as the robins were close about the doors, and attending at the bed-room windows, a day or two before; while on Sunday we watched with pleasure and satisfaction, half mingled with regret at the day of the week, a splendid mallard drake slowly and unconcernedly skirting the edge of the water in our little bay at half-tide. It was quite alone, and looked resplendent in its glossy

Oct. 28. plumage, throwing quite into the shade the equally marked but less graduated hues of the oyster catchers, that were its sprightly neighbours. This is the first mallard we have seen in our bay for a time, as the mother with thirteen youngsters that was our regular visitor for some weeks seems to have found a more congenial place of shelter.

Another unusual visitor was a grebe that for some days was diving assiduously right opposite our door. These small birds, with neck and head small and snakelike, compared to the buoyant body that remains under water, are sufficiently common all along the coast; and, offering but little mark for ordinary shot, are but rarely fired at. They are, however, extremely watchful, and we were surprised to see this one so close to a habitation. A friend recently shot one in the loch of a larger size than the ordinary "dab-chick," and from the dimensions and general appearance, we should have called it the red-necked grebe (*colymbus imbricollis*), although the specimen in question had not this specific characteristic distinctly marked.

These birds, in place of showing their aquatic existence by webbed feet, have rather chosen the simpler process of flattening their several toes, and these have accordingly assumed a perfectly flat lozenge-shaped appearance, totally unfitting them for a terrestrial life. Their legs are likewise set almost as far back as those of a penguin, which compels the bird to sit perfectly upright, should it ever endeavour to balance itself on its legs—an effort we have never seen any of the species make.

On the hill to-day we thoroughly enjoyed the change of weather, and consequent alteration in the scenery. Looking down on the loch we found the hills to the

right clothed in snow, and the valley of the upper loch filled with mighty clouds, hurrying before the bitter gales. To the left the sun had lit up the hills of Morven, searching with unshrinking eye every nook and cranny of Kingairloch. Gradually the mirk advanced from the right over the dancing loch, filled with galloping white horses, chasing the sunlight before it, until it broke upon us in heavy showers of sleet driven with the utmost fury. The scene was very fine and thoroughly enjoyable, for although the dying autumn was expiring at our feet, the living winter, full of force and purpose, was sweeping down upon us. We contrasted our walk with one a week ago, in which the day was calm and beautiful. The stillness was so marked that we determined to try the effect of an Australian "Cooi" from the hill, and to mark whither the sound carried, by the movements of those below. But little do we think how far a simple word, be it written, said, or sung, will carry. Knocking against the Kingairloch hills, it was thrown against those around Ballachulish, to be once again flung across Loch Linnhe on the hills about Ardgour; reverberating and re-echoing thereafter from the wilds of Lochaber and Lochiel! To-day our shouts could not have reached the loch beneath us in any direction—like a "popular agitator" whose popularity had waned before a mightier agitation. Oct. 28.

There is a great movement among the hills and glens just now. Not only have we been exceedingly busy in sending down our excess of stock to the southern great markets, but the smearing is in active operation, to be followed by the hurrying off the extra summer stock of our hills to wintering in cosier corners. Were it not for this arrangement we could not possibly carry the

Oct. 28. same number of stock on some of our upland farms without growing a large crop of turnips, &c., for winter. A Southerner has only to follow one of these droves of blackfaces, fresh from the wilder neighbourhoods, along one of our roads, to have a good idea of the source of that dogged perseverance for which many of our Scottish countrymen are famous. The infinite patience and fixedness of purpose of the shepherds who have to drive them, in face of the obstinacy, contrariness, and "general cussedness" of their charge, in a few generations ought to make Stonewall Jacksons of every one of their descendants!

Last evening we had the aurora borealis exceedingly brilliant, and along with it a remarkable phenomenon in the shape of a great bow of light on the horizon, in a perfect curve, with a black bank of clouds underneath to give it greater prominence. This seemed to us to be caused by the refraction of the sun's rays long after it had gone down, and to be quite distinct from, although in strange community with, aurora itself.

We wandered up a beautiful trout stream, that is usually sparkling all through with glancing "spotties," in order to see if the north-east wind had much effect upon their ordinary avocations, as it undoubtedly has upon their rising to the fly. The stream was clear and limpid as could be desired, and only dull at the bottom of some pools, under the stripped branches that had flung their discarded raiment into them. But not the movement of fin or tail do we see to-day over a lengthened course, nor anything to indicate the presence of a single trout. They don't seem even to be going about their most necessary labours, much less endeavouring to keep up their circulation—such as it is—by active sports!

Unless we are to conclude that they are all playing at hide-and-seek. The other day, as we were crossing another stream at low spring tide close to the sea, and consequently where the seaweed was growing rankly, and the sea would be flowing over it most part of the twenty-four hours, we startled something among the seaweed. We turned back and hunted the creature for some time until we secured it, when to our astonishment we found we had captured neither more nor less than a burn trout —a veritable spotty! Had it been a young sea trout or salmon, it would not have caused us any surprise, as they are both, of course, salt-water visitors; but to find one of our old friends from the homely burn among such pasture was indeed a cause for some consideration. But mankind in their self-conceit have too long fancied themselves especially favoured with the capacity for accommodating themselves to changed conditions of existence, and point with exultation to the fact that they alone can live in all climates in apparent health. Yet here is a distinctly fresh-water fish of the most delicate character freely passing into almost salt water, and apparently remaining in still salter water for a time. Their congeners, the sea trout, were leaping very freely in sea water lately. Indeed, a few weeks ago we were out when they were leaping all around us with exceptional vim, and so frequently that a really good snipe-shot might have bagged several with the fowling-piece, so high did they spring from the water. Oct. 28.

NOVEMBER, 1880.

Nov. 4. As a customary thing, with us a light breeze arises at the lowest of the tide; but for several days at this ebb the time of low water has been marked by the most perfect calm. This has enabled us to have a very good view of the sea bottom over considerable stretches of ground. Yesterday, more especially, was the day favourable, and we traversed several miles of coast with a constantly-shifting panorama beneath us.

Strange to us, although we traversed thus carefully many acres of *Zostera marina*, we did not find one of the anemones that were so numerous upon it some weeks ago! This seems to point to an intentional and intelligent migration on the part of this lowly-developed animal. Did these creatures really cast themselves loose in multitudes from their customary rocky footholds, in order to float with the current on to the sea-grass, and there obtain some special form of nourishment at a certain time of the year? However difficult to imagine, this seems to us the most simple explanation, as at the same season during two years we have seen them in this position in multitudes for a short time, after which they suddenly disappeared.

The boat is slipping quietly along under our poling, with here and there a huge bloated starfish or an excited crab of some more or less common species skulking or "skeddadling" along underneath, when suddenly we check its progress, and slipping our iron under something at the bottom, actually toss it into the boat. We are half-surprised at our own success, as it seemed merely the reflection of the sun on the bottom of the water! The

moment we lifted it out of the water its glory half Nov. 4.
departed, and it then only appeared as a base imitation of the glorious luminary it so lately seemed to reflect. A huge sun-star it was, with twelve fingers and prevailing hues of brown to red—nearly a foot across. The multitudes of "sea-worms" with varied brush-looking but elegantly coloured and delicately formed filaments and long tough cases are very great. But the shadow of the boat or the slightest movement towards them in the water, as we pass over the sands, at once makes them close up like a little flower fan, leaving nothing but the brown leathery tube sticking out of the sand. They are very interesting objects these annelids, but require to be closely looked at, as their sober-coloured cases do not attract attention.

The various sea anemones were out in full fig on the rocks, but it was impossible to drag the beauties, with their pure white encircling frills, from their firm footing without injuring their delicate feet with the iron; at length here is one on a movable stone, so with a kitch we get it upon the graip, and soon land it, still on its native foothold, in the boat.

As we thus skirt the shore, with our eyes on the waters, we note not the now varied life of the shores, until a wakeful curlew springs his policeman's rattle of a voice, and sends oyster-catchers, mallards, widgeons, and herons helter-skelter from the beach. We cast a glance upwards to learn the cause, and catch the sudden hover of the blue hawk overhead, on its way to the hill slope beyond. This year there has been a dearth of whilk spawn—in fact, an almost total absence of it—and we look in vain for the young of the periwinkle among the various *fuci*. The fact seems to be that the spawn was thrown so late

Nov. 4. last inclement year that this year the mothers were not in a condition to benefit by the fine season; just as a cow that calves in winter can scarcely be expected to produce again in even the most delightful summer.

To-day we were floating in our boat along the edge of the rocks, with just an occasional movement of the oar to regulate its course. The tangle was growing luxuriantly, the tide running bravely, the sea-bottom clean and hard—just the place for interesting life. A dash of the iron graip brings on board a fine sea-urchin in gay apparel; the rush of waters forces us to leave recumbent on a blade of tangle a fine white nudibranch mollusc, and another whitish object we jerk on board turns out to be an egg of a dogfish, with the embryo well advanced. Two of them are found on examining the piece of sea-weed, round and around which the long tendrils that spring from the corners of the handbarrow-shaped objects are wound. These eggs we carefully take on board, in order once more to endeavour to hatch out the occupants, which from our former experience must be a very lengthy operation indeed from their first deposition.

Not only do the eggs take a long time to hatch, but they seem to be carried for a lengthened period in the mother ere they are thrown, and probably are thrown at considerable intervals of time, as with hens. A skate-fish caught this week was well filled with very small eggs, resembling those to be found in the body of a laying hen. As the stiff gelatinous shell requires time to form, as well as the lime shell of the land animal, it would no doubt be a long time ere all these were thrown; while from the fact that the months of May and June are those in which these fish mostly frequent our shallows in order to deposit their eggs, it is quite possible that these may not be

matured and ready for deposit until next summer. The skates in our loch are mature fish, evidently several years old, and yet in the Outer Hebrides we should scarcely have accounted them as other than babies, considering the dimensions of the monsters caught there. This would point to the skate-fish reaching a considerable age, and, taken along with the time required for the production of the living fish from the egg, we may consider it probable that this comparatively sluggish vertebrate creature is deliberate and turtle-like in its various operations, even to taking plenty of time to die. Nov. 4.

The first big diver we have seen on the loch this winter showed its black neck and white breast to-day, as it preened itself in the sun between the squalls. It was a fine black-throated diver, and seemed busily employed. But to-day there was a marked absence of seals, although yesterday while near the head of the loch they were our constant companions. Apparently they had followed the sea-trout that are now crowding daily and nightly about the beaches at the mouths of the streams, most of which are, however, too low and dry to permit of any attempt at an ascent. The few showers we have had may help to moisten the surface land, but have been quite insufficient to affect the volume of the various burns. So the seals can revel for a while yet, and the poor trout must leap and skip amongst the shallows until the heavens are kinder.

Here he comes with a large oyster shell in his hand, and we wonder what can be in it or upon it to interest the essentially practical mind of the bearer. Small enough it must be, and something unusual, that is certain, or it would never have been borne so carefully in from Nov. 11.

Nov. 11. the furthest point of low water. "What have you got?" "Well, I think it is a snail," is the reply. We look carefully at the beautiful little object, and, it is some time before the character of the little treasure comes home to our understanding. The bearer is right; it is a snail! But what a snail. It looks indeed more like a minute porcupine with feathered quills of great length and beauty, for it is a nudibranch mollusc, (*hermœa?*) such as we have never hitherto witnessed the equal of, either for elegance of colour or construction. Less than one inch in length, it is supplied all over with long delicate branches of pink colour with tips of white—these last being cone-shaped swellings of a very peculiar character. This extremely delicate creature, then, is covered all over with lungs, and although immediately transferred from its limited oyster range to plenty of fresh sea-water, it apparently demanded still more plentiful oxidation, and soon succumbed, to our great regret. The branchings are each as long as the creature itself; the foot white and pure as crystal; the eyes on footstalks of pink; altogether a most delicate waif from the rude realms of Neptune.

Half a bushel! Indeed, if we chose, it might have been a score of bushels; and full of gelatinous masses of all descriptions intermingled with other wonders of the waters. For our long-idle dredge has been at work, and time after time came up with ascidians and varied embryos in myriads, making us hanker after a more perfect knowledge of their ultimate growths. We are supremely ignorant of the embryology of marine creatures, and a blue-book lately issued, with the summing up of a popular and enthusiastic naturalist's knowledge on the subject, proved a very meagre storehouse. The difficulty of the

subject is very great, as the time required for maturity is Nov. 11.
frequently considerable, an ample supply of water necessary, and much attention is also needful ere the gelatine bags, so much alike, be distinguished as belonging to widely different creatures. That some of those procured belonged to several species of cuttle-fish we were well aware, but it was not by any means such an easy matter to decide as to many of the remainder, some of which we had dragged from the bottom at all times of the year since the early spring. However, they are now, as a rule, all much more advanced, and we were beginning to have suspicions of the character of some of them, which only the difficulty of belief at first prevented being a certainty to our minds. We have frequently had occasion to call attention to a specially beautiful class of gelatinous bags, about 1½ to 2 inches in length, clear as crystal. The form of the embryo was clearly visible inside as it developed, and we yesterday found the creature quite ready to depart from its early home, and begin the world for itself. Not until we had found the perfect animal could we believe that these beautiful jelly bags were the eggs (?) of the small annelids, those peculiar worms with the bunch of fibrous tentacles, that frequent the bottom of our loch in multitudes, and form habitations for themselves of long leathery tubes, out of which they pop their brush heads. The creature came forth all ready formed, and had only to scuttle into the mud, and commence manufacturing its tubular protection. This gave us the clue to some of the others, and we came to examine them with more interest, as with more knowledge. Some of the larger ones were also far developed, and proved to be the large red worms, with a shock head of red tentacles, that inhabit almost every crevice in the

Nov. 11. bottom of certain parts of the loch. These form their dwellings of bits of shell, gravel, &c., all agglutinated together. Some of the gelatine bags were tinted crimson, some were sea-green, and we attributed the difference to the varied species of terrebelli, whose tentacles also vary indefinitely in colour and character. We own to considerable disappointment, along with our satisfaction, at discovering so many of these important-looking embryos to belong to such a low-class organisation. At the same time it cannot but be most interesting to learn that this so-called "worm" passes through such an important phase, and the discovery tends to raise the creature in our estimation, and leads us to believe that its remarkable sensibility to the presence of an enemy—or the absence of light—must point to a higher development than we would be willing to allow it at first.

Wow! We are leisurely dipping our fingers amongst the array of gaping scallop shells, of two elegant species, (*pecten opercularis and varius*)—and the masses of jellybags sticking to tags of tangle, when we are suddenly met with a snappish reception. For a crabby has been tumbled in amid the rest, and protests with his nippers against our intrusion. So we now keep our wits about us, and with more care fetch out another crab of a different species. A crab indeed! say those about, and really it is scarcely credible. Sick and sorry he is, and no wonder, for all his lengthy limbs are coated with a growth of sponge. What limbs they are too! He himself is but an inch or so long, while his second limbs are quite four inches. The joints seem all diseased with the action of the parasitic growths; a sea-squirt having affixed itself firmly to one of them. The lanky, cadaverous-looking creature is one of the

family of *leptopodiadae*, with the members of which we Nov. 11.
do not claim an intimate acquaintance.

In fact the crabs, or crustacea generally, are a most powerful family altogether, not only in the claws, but in the length and breadth of the membership which penetrates over the known globe in countless variations. We recollect being struck with the novel construction of some crustacea in the Museum of Marseilles—one especially rich in natural history—and asked the distinguished director, who had just completed the classification of the order, what the species were. He turned to us with an amused expression, as he pointed to the great hall entirely devoted to the class, and seemed to think the enormous display sufficient excuse for being unable to carry about the nomenclature. The development of natural history is so great that only as a student or a specialist dare we touch the subject. The sponges in our basket are not sufficient for the bath, but are quite enough to carry despair into the hearts of the creatures they fasten upon, unless these are especially active. The scallops are frequently all covered on one side with this growth. These shellfish rather puzzle us, as, although remarkably active and apparently intelligent creatures, some seem to attach themselves early to the gelatinous leaves of the *alaria* by a kind of byssus like that of the mussel, and some remain thus permanently fixed. We found some of a medium size that had quite taken the "cast" of the article they had affixed themselves to. We allude to the small species (*pecten pusio*).

But our little tub is not nearly exhausted, and we cannot even spare time to examine the scattered young of various shellfish sticking to the tangle or the scallop shells. Here is one small oyster to which has already

Nov. 11. been attached a serpula, whose slimy coil even now covers nearly the whole shell. A desperate struggle for existence lies before us in the tub, and we may also add an amount of intelligence displayed in the conduct of the battle of life which few are willing to admit.

Nov. 18. Our changeable weather has given us some fine sights of late. On the evening of the 15th the finest halo we have ever seen was around the moon for many hours, the radius of the perfectly-defined circle being about ten degrees in length. The snow followed it during the night, and for some days the white robe is around all the hills to the very foot. The further hills are whiter and deeper coloured, those about Glencoe more especially, and as the moon rose last evening in the keen frosty air over the perfectly white mountain tops, with the pale blue background, it presented a most remarkable appearance of a deplorably mundane character for such a dignified luminary. Indeed, one's most natural comparison was to a huge brass plate, with the sun glaring on it.

The keen frost has now fairly got the master of the weather, which on the 14th was wet, and yesterday was driving snow and bitter sleet from the north-east, so that, as we endeavoured to force our boat against it, we were soon all chilled, despite our exertions, and forced to shelter for some hours in the little cove we had gained, ere the coming frost and settling sky made it possible to turn the exposed point, where wind and current alike dashed in our teeth. The change came gradually with the turn of the tide, as frequently happens—a connection of the weather with the moon which may account for the popular belief, now long proved fallacious by exact observers, that the phases of the moon affect the weather.

Weather changes no more frequently at the changes of Nov. 18.
the moon than at other times, if not indeed less frequently, say the scientists.

The 14th came in the middle of the change, with wet and cold, so we chose that day of all others to see if a roedeer could be found. To attempt to stalk such small deer at any time is a practically useless operation, and to drive them in such weather, and along such a rough stretch of forest, was cruelty to the human animal, if not to the quadruped. Still the day had been fixed, and descending from the "trap" that conveyed us to the ground, we mustered keepers and beaters for the "drive."

We do not specially affect the manners and customs of fashionable and ardent sportsmen, so that a drive has no especial fascination for us, but we do like to see this most graceful of the deer tribe in a state of excitement, with the beautiful eyes and mobile ears in a condition of utmost watchfulness and anxiety. Any animal is seen at its best when its whole "animal" nature is on the stretch. Somehow we are not sufficiently civilised to appreciate to the full the pleasure of sitting immovably in one posture, scarcely breathing, with the finger on the trigger, or at the least the gun at "ready," awaiting a possible visitor, so it was with thorough satisfaction that we followed the beaters to the end of the drive, along the charming pathway over the sea, glimpses of which we enjoyed through the thinning foliage of the deciduous trees, and the dripping branches of Clan Alpine's evergreen pines. Far across the sea the distant Ben Cruachan was in fresh white, and the great stretch of landscape and seascape, though draped in grey, was full of beauty and of grandeur. The walk amid the trees was therefore thoroughly enjoyable, although the one hand was enclosed by the steep

Nov. 18. hillside, also well covered with trees and brushwood, along which the roedeer were to be driven into the occupied passes.

The end of the drive was reached at last, and as the beaters were being arranged, we awaited the signal for their start, that we might keep ahead, and "pot" the graceful bucks that would in all likelihood cross the path in front of us down the hillside. A "wet blanket" was over all, but for the exhilarating air and charm of the scenery, and scarce a sound could penetrate through the muggy air; so we soon found ourselves unable to judge within a mile of the locality of the beaters, and this greatly increased the excitement of our walk. Had a buck broken near us, it could only have presented a momentary snap shot; and had we discovered, after such a successful shot, that our game was a red-haired Highland lad, with half-a-dozen buckshot in the wrong end, it would have caused us more annoyance than astonishment! But neither roebuck nor Celt demanded our attention; indeed a score might have passed us within thirty yards on such a day without a sound reaching us, or a sign showing among the scarcely bent branches. Our companion and friend had been visited by a fallow fawn, that stood and peeped wonderingly but unconscious of danger at the unusual intruder; had a *horse* done so to us woe betide him, as we had made up our minds that nothing but roebuck were to appear, and such were to be shot *if seen*. But another portion of the hill was still to be beaten before dark, and this time it was elected that we were really to enjoy the proper pleasure and excitement of "driving!" Under the skilled conduct of the keeper we were placed at a well-frequented path, with a square yard of open ground about thirty yards to our left, and a

fair stretch of broken ground, with scattered brushwood Nov. 18.
for thirty yards, to our right. There was thus an unusually good chance for a snap shot on either side if seen in time. Meantime he had to wait, over the tops of our boots in water, immovable as a statue, while the keeper circled around and started the beaters, and then until they should get our length.

It had now been steadily raining for some hours, and the whole foliage around, of trees and natural growth, was hanging with silver beads; while the stream, newborn of the late rains and cool as the hill tops from which it had but come, prattled along under our feet, with variations as it gurgled over the tops of our boots and endeavoured to insinuate itself needlessly through the sewing. In vain we hoped to see a hare, or even a rabbit, to excuse our emptying our gun and making a noise to relieve the dull monotony of a scene otherwise really beautiful; "even an Irishman" would have been acceptable, but nothing showed whatever.

At last the sound of the beaters reached us, and we pricked up our ears, but we scarce expected the deer would break cover on such a day if they could lie close or double back, and more than once we heard a sound of dainty footsteps in the cover behind us only to pass away. Several had doubled back most ignominiously, and when the sound of the far off shots reached us, that told of more success at another pass whither the roedeer had trended, we joined the beaters and freely indulged in abuse of the want of skill that had prevented them forcing the game across our gun range. All the same, we believe we were in far greater danger of catching cramp and inflammation along with the ravenous appetite we did fall in with, than any roebuck of catching its death from our

Nov. 18. benumbed limbs and fingers. Roebuck are delightful creatures to watch in the woodlands on a summer's day; but to crouch in a ditch while they are driven up behind to sniff their noses at you over a fence, is more amusing to the roebuck than the sportsman.

Nov. 25. The promised American "filibuster" was late in arriving, but yesterday and last night it has been blowing hard to make up for lost time, and we should not be surprised to hear of considerable damage around the coast. The wind being south-west, we are fairly well protected, except about Ledaig, in which direction we already hear news of disaster.

When traversing the road near Ledaig at the beginning of the week, we were principally occupied scanning the splendid expanse of sea and island and promontory to our right stretching away to the watery west—a view that never palls upon the sight, and is ever new. We had just passed Selma—"the beautiful view"—when we glanced at the wooded cliff to our left as a set-off, and a pleasant contrast in its contracted interest to the more extended and dream-engendering sea view. Surely that is not a blackbird on the low bough of the tree, and yet the restless movement and bobbing action is that of the merle. A mountain blackbird or a water-piet? is the question that again flashes across our mind, only to be answered in the negative. No! it is only an albino, and a very handsome one, too, for it carries a pretty white collar round its neck, always clean, and fresh, and pretty, like a white lace collar over a lady's black velvet dress. We watch the movements of the bird for some time, greatly interested, and afterwards question the keen observer in the little bower under the big rock as to the

"companion of his solitude." He tells us it has been a Nov. 25.
regular visitor for two years, and builds among the ivy up on the face of the rocks, but he has in vain watched to see if any of the young songsters took after their handsome father. We thank fortune that guns are scarce about Ledaig, or this really beautiful bird might ere this have been sitting in woe-begone glory on a pair of wires.

Our dredge has been at work several times lately without any marvellous success, although it is rare to drag it anywhere without receiving a proportion of interesting objects on which to direct your attention. It is impossible to describe the differences in appearance of many of these seawenders without entering into an irrelevant zoological disquisition, for only as we examine and compare them closely can the marked differences of some be seen to be merely external, and the close resemblance of others prove purely superficial. The *Marine Ascidians*, or sea squirts, those commonest of objects from certain portions of sea bottom, are of all sizes, and their external appearance may vary from a pure white tuberculous object an inch in length, with a rude resemblance to one of the finer nudibranchs, up to a great, brown, rough-skinned and rather forbidding-looking creature, six inches or more in length, not unlike a badly-made sausage that had burst in the boiling.

Over and over again one is amazed at the parasitic growths on almost every creature that comes out of the depths. Here is a crab, quite dead of course, with what is comparatively a mountain on its back. It is dead? It is certainly by no means in a vigorous state of health; but marvellous to say, it is alive! Yet, considerably larger in bulk than itself, and partially enclosing *its head*, so that it could only breathe with difficulty, and ap-

Nov. 25. parently could not latterly eat at all, is a well-grown yellow sponge, living its own degree of life, and by its growth reducing the existence of the crab to its own low level, preparatory to a very early demise. We are somewhat at a loss to reconcile the growths to be found so frequently on many crustacea with the fact of their yearly change of shell. Did this sponge eat so into the shell of the crab as to paralyse the life action, and prevent the activity of function necessary to replace the older growth? Or did it fasten on the young shell, and mature so rapidly that it reached its position of mastery ere the time for renewal arrived? These small sponges are certainly great enemies to higher life in the ocean, and are among the most deadly parasites we meet with.

Hold! back the boat! we strain at the heavy dredge until our back protests against the treatment, but at last it moves, and then comes up hand over hand. What can be in it? If hard to move it is almost equally difficult to raise, and, as we topple the moveable contents into the boat, we are scarcely surprised at the huge stone wedged into the mouth, and demanding careful manœuvring to come out. What is that? says everyone. It is covered all over with "splatches" about the size of a florin, and these turn out to be young oysters in a very thriving condition. A "doris," too, we find in one of our trawls—the commonest nudibranch—up it comes from a sandy bottom at several fathoms depth, where we little expected to find it. The jelly bags which contain the young terrebelli are still numerous also, showing that thus late in the season they have not yet completed their embryonic existence? Here is a different class of prize from the sandy ground. A young plaice about four inches in length. It has grown well since its first appear-

ance in the early spring, and so it ought to, for better Nov. 25.
ground for its growth could not be desired. Flat fish of all kinds favour our muddy-bottomed loch, while our neighbour, Loch Etive, is most in favour with the whiting.

This may partly arise from the superabundance of fresh water, as our experience is in favour of the whiting especially frequenting almost brackish sea lochs, and choosing the heads of such lochs, where the water is freshest.

We have never scoured the bottom of Loch Etive, whose very dirty—that is seaweed-covered—bottom is not favourable for the dredge; but we started this week with a water telescope under our arm, in imitation of Norwegian prospecters for cod, and searched the bottom of a small protected portion of Etive's shores. Although the water was dark and a light wind troubled it, our tube successfully exposed the varied contents of the nooks and crannies among the seaware, and very much surprised we were to find so little life visible. Except a fair proportion of starfish, mostly of an inch or less from point to point of rays, and an occasional crab, nothing but the abundant vegetable growth crossed our field of vision. The vegetation was certainly well covered with the commoner sea life, in the shape of small molluscs and minute serpulæ, but beyond this nothing of special interest repaid our search. This, too, although the portion surveyed was brought as close to our eyes, and was as clearly defined, as if we were peering at it in a washing tub. But the pleasure and excitement of hobnobbing with the "all possible" sea-bottom, from which we expect so much with its hidden wealth, is sufficient return for our labour, and we are not dissatisfied as we once again secure our instrument and toil up the steep ascent to a hospitable

Nov. 25. haven, whence we can watch the mallard, the widgeons, the teal, and the curlews circling about the waters we have left, in company with the inquisitive seals, and the less watchful dookers. For Loch Etive is indeed a paradise to the wild-fowler.

DECEMBER, 1880.

Dec. 2. We have had a fair share of the continuously severe storm from the south and south-west, and a few trees went in the height of the gale of the 26th ult., one stout spruce being snapped across as sharply as many of its fellows were in the last December gale. But the damage generally has not been nearly so severe here, possibly from the large proportion of weaker trees having gone previously, and our boats being scarce since last storm. Although it was neap tide, it was dangerously near the last December spring tide in height; indeed, only once has a greater neap tide been known here, the continuous southern and western gale forcing the body of water up Loch Linnhe. During the storm, the earthquake, so generally felt in the west, was distinctly noted both in Benderloch and Appin. A lady friend, in bed at the time, was alarmed by it "rolling" across the room, shaking the bed in which she lay, and rattling the ware on the wash-stand most energetically.

During the gale the seabirds were greatly alarmed, and the oyster-catchers crowded together on the shore in a great body, in such perturbation that they did not give their customary attention to their safety from human inhumanity. They exhibited on a small scale the peculiar-

ity so often described in a great storm and inundation, Dec. 2.
where all classes of animals, hunter and hunted, are too much absorbed in the extremity of their danger from material nature, to be able to follow their customary instincts.

In the height of the gale we watched attentively some rooks crossing the loch in the face of it. They flew very low over the water, and steadily tacked, with evident intention and endeavour, all the way over. A rook is a very knowing bird, and is sure to take the easiest way it knows to do anything whatever. Its nest is built with the smallest possible care and labour; and its flight is easy and by no means rapid, yet it made far greater progress than could have been anticipated from the display of force expended, and it was evident that while urging itself forward it managed to make partial use of the wind when in its quarter, and at least evade it dexterously when straight ahead.

A rather unusual occurrence took place in our vicinity last week, and seems to help towards an entire exculpation of the hero and victim from the criminal responsibility sometimes laid upon it by sportsmen. As the principal keeper was turning some cattle on to the road from the Barcaldine Woods, he was obliged to take a short circuit over a piece of roughish ground under the trees. Looking over a hillock he observed a kestrel hawk quite alongside, and, with the prompt instinct of his class, the active old game preserver struck it on the head with a sweep of his stick. To his astonishment it then suddenly disgorged a whole mole, which was on the way down its throat when the keeper came upon it. No doubt the half-choked bird was stupified, and unable to escape readily under the circumstances. That the kestrel

Dec. 2. is more a "mouser" than an enemy of game, we have long believed, but we did not before know directly of its eating moles. Those who are best acquainted with their habits and habitats, tell us that in no case have they ever found them eating small birds or birds' eggs, and in and about their nests, the remains of their feasts consist mostly of remnants of mice dinners. Under these circumstances it is a pity that this graceful little hawk should be so ruthlessly pursued, as it frequently is. The sparrow-hawk is a bird of a very different character, being quite as bad as he is painted.

We were much amused with a little dog, of no apparent utility to anyone but himself, but of the most restless activity, as if the affairs of the world were only neglected through its inability to overtake all its obvious duties. Like many terribly energetic people, its energy mostly evaporated in rushing around promiscuously and barking at the world; but during the storm, which was at its worst about midday at the height of the tide, our little neighbour accompanied us to the shore. Here we were all busily occupied saving the boats from the unexpected and exceptional rise of tide, and out of sympathy, and in the excess of its energy, the cur was equally daring and determined in dragging ashore pieces of the floating seaweed drifting on the incoming waves. Its peril was evident, as, not being a water-dog, and the suck of the waves being great, there was every chance of its being taken out into the current, but its frantic desperation to be useful in its day and generation was clear, and very amusing. Good-will among dogs, any more than among men, is not always accompanied by cool intelligence.

Our bushes have long been pretty well cleared of hips, but while sitting in a cosy room looking out on plenteous greenery beside a dashing mountain stream, we were sur-

prised to see the bushes in front still brilliant with hips. Dec. 2.
Our kindly entertainers soon explained that the birds were not so numerous there, any more than elsewhere, ever since the severe winter of two years since, while the crop of rowans being good on the mountain ash, the birds had been busy at these bitter, but evidently favourite berries, and only came to the hips when the others were finished. Before the window were ivy-clad walls, all neatly clipped away up to a certain height from the ground. This we could not well understand until informed that the deer were beginning to get hungry and familiar, and had commenced operations by this workmanlike assault upon the evergreen.

It is difficult to keep any green thing from the hungry live stock, either from the mountains or the fields, after this time. Three rose buds gladdened our eyes under the window lately, and we watched their progress lovingly, until in an unlucky moment the gate was left open, and a neighbour's horse of an æsthetic turn of mind, made its appearance at the door. Our rush was too late! The three rose buds had gone at one fell swoop, and we were left uselessly lamenting.

Some time since, on the advent of frost, a friend left a quantity of crumbs on the outer window sill for the birds, hoping they would see and make use of them. Next morning they had disappeared, and the same thing the following morning, to the satisfaction of the donors. It was not until after closer examination it was found out that mice and not birds, had been graciously provisioned! Now the birds had really not discovered the crumbs, while the mice, although they could not have seen them, were yet sharp enough of scent, keen enough of wit, or sufficiently of an exploring and enterprising

Dec. 2. turn to have found them out. We should have thought that the birds had every way the better chance, unless some crumbs had been allowed to fall below, and so suggested the presence of more such above.

Dec. 9. Since this day fortnight we have only had one day in which it could be said the weather was even reasonable. Again and again, during this period, we ourselves and our visitors have experienced the "advantages" of being on an island, and as the telegraph leaps over us in the most contemptuous manner, it adds to the growing belief in the mind, that we are surrounded by the sea *de jure*, as we certainly are *de facto*. Our ferries are all serious affairs, and we are so spoiled by the presence of the new railway, and other civilised arrangements, that sanguine people are even talking of probable bridges.

No doubt, were we much troubled with the advent of distinguished strangers, we would make an effort to improve our communication with the outer world, but as it is we are forced to accept the treatment we receive from old-fashioned authorities. Thus it was that with the wind blowing keenly, and the rain falling in streams, we were obliged to approach the ferry beneath the Connel Falls. As we left the shore we found the broken water of the falls, then tumbling freely, to be crowded with screaming and dipping sea birds, all apparently as profitably as busily employed. Why these bits of broken water at the mouths of sea lochs should be so especially frequented by fish, when so few can be found in the lochs themselves, it might be unwise to say positively; but it may be that the gulls could there more readily reach the fish, where they were obliged to approach the surface in crossing the shallows; while what would be a

fair number of fish in such a limited locality would Dec. 9.
amount to an insignificant stock when they had entered and spread over the large surface of the loch. But there is no question that lythe and saithe are always found about such quarters, and lythe more especially are never procurable except from a rocky district, and if a severe current or rush of water is added, there they are to be found in multitudes. We suspect the stronger lythe frequent these places on the same errand as the sea-birds—in search of living prey. These localities are always well grown with strong-leaved seaweeds about which the smaller fishes seek shelter; and again multitudes of edible creatures, suited to form repasts for finny enemies, are no doubt whirled willy-nilly, into the influence of these currents, and collect the devourers to meet them.

In a special dish in our window, we have had two specimens of nudibranchs for examination, and for the first time we have succeeded in keeping them apparently well and active, although the weather has been so severe that we have been unable to procure any nourishment for them in the shape of zoophytes, which we presume compose their principal dietary, as they do that of other and grosser species of the class. Those we have are of the family of the *æolidæ*, and, when first captured at low water, forced even those who are accustomed talking of our various captures under the contemptuously familiar name of "beasts," to acknowledge their undoubted beauty. One has gradually monopolised the dish in which they are by its superior energy, scarcely ever still for a moment, but varying its mode of progress about the circumscribed dish by swimming with foot-belly upwards, and all its beautiful gills hanging downward. Like all

Dec. 9. snails, they are no doubt great eaters; but to look at this creature with its elegant transparent body, in which, despite its admirable position for investigation, scarcely a viscera can be seen in the silvery gelatinous ovate form, one can hardly fancy it feeds at all. The pointed form of the latter end of the creature is prolonged beyond the bunches of gills, and gleams with opalescent lustre. The long slender gills, in bunches of rose-coloured vermiform filaments, with white truncated ends, are really graceful ornaments, and when reclining partially on the back of the creature, covers it with a half feathery coating that hides the tufted character of the grouping of the gills. The tentacles are very long, very pliant and active, and in delicacy quite in keeping with the whole organisation of the lovely little mollusc. We brought both in together from low water, at which time they were of a somewhat delicate rose pink; but under confinement the one has become almost white, while the other has intensified its colour into a distinct red. The smaller seems cowed and alarmed in the presence of the other, and as the larger ones of the class are said to devour each other in captivity, it may *really* have been fear that has deprived the smaller specimen of its colour!

On the way along to Connel the sides of the road were lined with gorse having a plentiful display of blossom, too hardy to be affected by the keen wind blowing. Our own hedge, lately stripped of leaves, has quite a show these last weeks of freshly green leaflets, deluded by the wonderful summer, and not deterred by the early and severe frost. There is no doubt that our season has been sufficiently exceptional to turn the heads of many of our plants.

We were recently informed by a gentleman who is not

only a good and trained observer, but also a thorough botanist and sound farmer, that there is tangible proof of the deterioration of our average weather for many years past. We learn from him that the so-called honey-grass, whose stalks were stripped by children for the contained saccharine matter, has not of recent years yielded anything resembling the former supply, and the concurrent opinion of intelligent farmers is all to the effect that the herbage of the hill pastures generally is equally destitute of rich juices, and, consequently, quite unequal to carrying the same stock that they did in former times. It would be most interesting to know whether this observation holds good of other districts, and to what extent it is merely a matter of opinion and belief, or of experience and experiment. It is quite natural to suppose that an absence of sunshine means an absence of the saccharine matter always created most lavishly under its influence. The farther we leave the sunny south behind us, the sourer are the grapes and the wines, and no doubt other plants will equally readily answer the absence of sunlight by absence of sugar. Reliable figures on the proportion of saccharine matter in a given quantity of "honey grass," grown under similar external conditions over a series of years, would be of more than local or evanescent interest and value. Dec. 9.

Yesterday morning our roads were sheets of ice, for although snow had been falling without intermission for some days it had not lain, while the growing mildness had not been sufficient to shake the solid ice crust. All the round of the compass went the wind, and from sleet to hard frost went the weather, until after a comparatively calm day we reached the ferry on the wrong side for Dec. 23.

Dec. 23. home, with a feeling that a "night" was before us. The water was still calm, and we were anxious to be on the right side, but a stubborn passenger declined to enter the ferry-boat! In vain the lassie who owned a sheep-dog addressed it in every tone of endearment and sympathy, not a foot would it put in the boat, while the more valiant and gallantly-inclined who sought to precipitate its movements were obliged to change their minds as to its harmless shyness. At length we were obliged to start without "York," and as the fact of having waited ten minutes while the animal was being unsuccessfully cajoled had not rendered us more good-natured, there was a malicious feeling of satisfaction in the boat as we heard the foolish animal run howling along the bank while its mistress in the boat was being swept down the current to the further landing-place. The ominous howl of the wind soon drowned the now repentant howl of the dog, and the night fell in a heavy gale and a bitter sleet. It is now some time since we have had such a trying walk as that homeward, with the slush inches deep over the slippery ice, that had tired out completely all the horses in the district during the day. We thought last winter very stormy, but this has so far exceeded it in steady pertinacity of gale, and only not equalled it even in fury of individual storms. This morning the snow and the ice had equally disappeared, and the mountains around, although still snow-clad, were obscured by the steady rainfall.

We were walking along in the dusk some nights ago, with a crisp coating of snow over the hard ice of the roads, and the night bright and seasonable. Something seemed to leave the middle of the road and run towards the moorland, also well coated with snow. At first we supposed it to be a bird, but following we found the

creature to be a little field mouse, which, perceiving our Dec. 23.
approach, dodged us with great activity around a dark, tufted bunch of grass sticking out amid the snow. It must have come a considerable way, or have been unable to find its usual retreat, for little appearance of a stronghold or place of retreat could be seen. A little further on another, and yet another, left the road, equally unable to find a place of security, and obliged to dodge us around the grass tufts. They could easily have been made prisoners, but having satisfied our curiosity as to the little creatures, we left them to return to the recent horse-droppings, which had attracted them evidently from some distance. This was the only possible food readily approachable, and the little animals seemed to have discovered them at once, and fully appreciated their importance in the then severe weather. For with the ground so hard, and snow some inches deep on the moors, it would cost them a severe struggle to reach the roots of plants. Now, these animals must have calculated on such deposits being somewhere on the paths, and sought them out, or else they must have keener scent than one would expect. Perhaps the keen, clear air would convey the intelligence of the possible "granary;" for much unutilised grain is given to well-fed horses.

A shed outside our home had gradually accumulated a large quantity of empty receptacles, and these we had removed a few days ago. First we came to one bag with a quantity of straw neatly spread, and a considerable number of potatoes with the eyes all bitten out, to prevent their growth. This was nest and store No. 1 of the rats. As we proceeded we came upon still more elaborately constructed hiding-places, with good stores of potatoes all around. These nests were made of pieces

Dec. 23. of matting cut to pieces with their sharp teeth, and coiled up along with fragments of the *Herald* and the *Field*, until the collected mass was considerable.

When all were removed we foolishly neglected to leave their stores for them, and to-day we find that they have been apparently roused to unwonted exertions, through the prospect of a severe winter and the sudden crisis which has deprived them of their all. So they have made an onslaught on the turnips, and even reached and completely stripped the outer portions from the cabbages we had hung up under cover for winter use. The extra havoc they have made these few days at the prospect of starvation is most remarkable, and shows an amount of foresight almost equal to the establishment of Savings Banks!

Suddenly there came a tapping at the bed-room window as we sat in the morning at our desk. The conclusion was at once that a bird had entered, so we passed into the room to liberate the self-imprisoned victim. For the first time in our experience we found a little tom-tit, or ox-eye, or any of the familiar names you please, so long as you understand it to be what wiseacres know as *parus major*. So it is called because it is longer than its brethren, although still a very little, very active, and very knowing fellow. We caught it as gently as we could, that the youngsters might see and admire its bonny black head, yellowish breast divided with a black band, long graceful tail, and the finely-blended colours of its back. But it bit us boldly with the courage of its race, and fearing to injure it we weakly and foolishly loosened our hold upon it, as if it were another Ireland. The result was calamitous! The poor bird slipped from our fingers, and in its terror and excitement ended in the blazing fire,

whence we rescued it in such a condition that in kindness we ended the sufferings of the ignorant but still valiant little bird. Dec. 23.

The red-breasts constantly enter our rooms, but the tom-tit is rarely seen about the doors, and it must have been sorely pressed for food ere it ventured inside. These birds will eat either seeds or insects, but if a friendly board be spread with bread and cuttings of fat they will always take the latter—indeed bread will not tempt them at all.

A sure sign of a severe winter we met at South Connel yesterday in a large flight of snow-buntings. We thought first they were only one of the numerous flights of chaffinches that have gathered together of late, but as they rose over us the brilliant white of their breasts and underwing feathers undeceived us. They were not without some colour on the wings and back however; nor, indeed, have we ever seen *plectophanes nivalis* in its pure white robe.

Iced-up and snowed-up, as we have been, we determined to make an effort to break our chains and have a day on the water. Boats that had been dragged out of the reach of the storms lately prevalent were now a mass of ice and snow, but after inspection we chose an easily-handled craft, and scraped the seats and gunwale clear. To float it, and toss in the hard-frozen gear, was our next care, and as we trampled shorewards we felt as if we were walking over a scattered glass manufacturer's store, for the retiring tide had left the whole foreshores covered with plates of beautiful clear ice, that crackled and splintered loudly under our feet. At last we get her afloat and are seated once more at the oars, determined Dec. 28.

Dec. 28. to keep ourselves warm and comfortable, but ere we are well out of the little bay our spirits are damped most unexpectedly.

Why did we take so long over the launching? We are "just too late," of course. Behind us as we row we hear a sound that sends us right about wheel in a moment, only to see a splendid flight of wild swans, flying low, and steadily advancing up the loch. About a score of them, all in a close flight, but keeping straight for the head of the loch, whither we resolve *not* to follow them, for our shot is not sufficiently heavy for such royal booty. We have never seen so many together, and the brilliant white plumage and magnificent show of wings set our nerves tingling. The severity of the winter is thus showing, but otherwise few strange birds have visited our shores.

We find the water clear and the bottom readily observable, but the tide is well up and advancing, so we leave the sea bottom and turn to the shore, to watch carefully the feathered wayfarers. If we could but drive the ducks from the bay across the gun stationed at the water edge, where they so often skirt along on the way from bay to bay! So we run the boat into the bay quietly, in hopes that some less knowing inhabitant of the foreshore be persuaded to permit our advance. First a restless grey wing flutters, as its owner passes a little further onwards; then a black and white object runs further up the bank. But all are getting restless, and at last a harsh scream advises us of the departure of No. 1 curlew, rapidly followed by various groups of them. Still birds remain among the stones, and as we advance yet closer, the piebald plumage of the oyster-catcher follows its sharp call as it skims off on the surface of the water to

a more distant part of the bay. Bother them! let them go, and the sooner the better, if they would only not unnerve the ducks. But these latter have become smitten with the general anxiety, and first one fine mallard drake and his sober-coloured consort, and then another pair, rise, with a hurried quack, quack; and "remember St. Bartholemew," or Christmas, is passed from duck to duck, until the brown stones of the shore send forth their numbers to pass quack, quacking in every direction but that chosen for them. Dec. 28.

The shores, however, are still busy with a most calmly aggravating set of labourers; for the rooks know perfectly well they are despised, or at least tabooed, by humanity until the early summer, so they are desperately busy, while surveying us the while with tantalising equanimity. As we are about to start for the other bay a gay bird among the rocks suggests a shot for sample purposes, for it is undoubtedly a snowflake. But although our shot splashes all around it it escapes, and we have no sparrow-hail with which to follow it. How miraculously creatures do escape occasionally! The last shot fired from our boat was at a rook, little over 30 yards off, which descended on to the top of a rock with a potato, and tempted one of the crew to secure it and thereby empty his gun. The shot fell all about it, ricochetting from the rock, and yet the strange bird merely took a circuit of a few yards, and returned to its potato! Desperately hungry, desperately cool, or a witch! for the hand that pulled the trigger was a safe one.

The next bay witnessed the usual performance—first the cautious curlew, then the alarmed oyster-catchers, and lastly the excited ducks took hurried flight, and although a splendid mallard drake went off with a pair of

Dec. 28. broken legs, after an almost fatal sommersault, still it *did* get away finally, so far as we were concerned. Never again could it have arisen once it reached the ground, and it would have been much more graceful and reasonable to have surrendered at once. We are obliged to supplement our bag with the exquisitely beautiful and gentle ring plover, flocks of which active bird are with us all the year. But the ducks have all hurried off, with outstretched necks and cuddled up limbs, and the oyster-catchers have become doubly wary since the gaps in their ranks, so we are fain to return homeward with a better appetite than bag.

The shore of late has not only been frequented by the customary little shore lark, with its feeble chirp, but many skylarks are to be seen among the gravel of the foreshores. We saw a plover, too, among the oyster-catchers, perhaps the solitary one we saw frequently on the shore last autumn. All the regular winter residents have good winter jackets, and even the white jackets of the oyster-catchers are whiter and thicker feathered than during the summer season.

In this neighbourhood and about Ledaig we have often met the grey wagtail up till late in the autumn, and even at Bonaw we met one last November, so that we suspected they remained all the winter. During the recent severe weather we have had quite a levee at the back door, all classes being freely admitted. Standing at the kitchen window, we watched the assembling; and first from under the pile of brushwood came the ever-ready and familiar redbreast. Scarcely is he in the basin than the tomtit (*parus major*), with his gay yellow and black breast, comes down to seek more substantial diet than the robin will put up with. Although the robin is a bold bird and

a hard fighter, he is obliged to make way for this fellow, Dec. 28.
and he only hops around at some little distance, with one eye on the food and one on the tit.

There is suddenly a swirl in the air, and down from the roof comes the grey wagtail, as if it had turned head over heels. It soon appears that he is now the cock of the walk, and neither robin nor tit are permitted within a respectful distance of the elegant, bobbing, black-throated aristocrat. Now there is a sort of row-de-dow, here-we-are-again, and a bullet-headed cock-sparrow, with the utmost self-sufficiency and confidence, plunges into the midst of the groups. He is now as clearly king of the castle as the wagtail lately was; and although the sparrow and his confreres, with the finches and the tits, all give a shiver of excited anxiety, and remove somewhat, as the blackbird comes with a skip and a flick of its tail, yet the poor blacky is evidently so occupied thinking of its own safety from more important enemies that it has neither time nor inclination for animosity. This weather is frightfully destructive to small birds, as cats and all such animals destroyed them wholesale, often for the mere sake of slaughter. We fear, if it continues, the next summer will show a still continued scarcity of the more delicate and interesting classes of our songsters.

JANUARY, 1881.

Jan. 6. We have been surfeited with beauty on sea and shore, and even the least impressionable to outward influences have been asking, "Did you see the mountains to-day?" or, "Did you observe the loch yesterday?" The play of light has been increasing, excepting when a garment of fog enveloped the vicinity two days ago, scarcely reaching us, however, although Oban and Connel Ferry were equally obscured. For a time the ferry at Connel was crossed more by experience than by sight, and the groups of heron-like figures looming through the mist, yet close alongside, seemed to startle us as we discovered they were fellow-humanity. Again and again younger eyes discovered some bright particular star, that only the strongest reasoning could prove to be some well-known house by the way; and as the night drew on, and the true stars came twinkling plainly through the thin upper stratum of mist, showing how low and narrow was the deluding bank, all the weather wiseacres saw we should have a good spell of frost to follow. So, as we tumbled out of the sheets on Wednesday morning, we were scarcely surprised to find every blade of grass bowing its head silver-encrusted, and the first rays of the sun glinting from a skin of ice on the surface of the bay before us. Yesterday, too, the moon was five days old and near neap tide, but as the day lay gasping breathless in the grip of the Ice King, the waters skipped out silently, until the best proof of settled weather was before us in a neap tide that would, in ordinary cases, have been a fine spring tide, indeed such a spring tide as we have not seen for months! So, as during the severe weather of early win-

ter, we had one of the highest neap tides remembered here, during the settled weather of yesterday we had one of the lowest known ; and even to-day is a better ebb than we have seen in many a spring tide. So remarkably is the movement of the great tidal wave affected by the weather locally. Jan. 6.

Trudging homewards on New-Year's morn, through the slush and rain, we still left a deeply-white world for our rooms ; while at daybreak the snow and frost had alike disappeared, except from the higher hills. But where the snow had largely disappeared, what was left drew a special survey map to indicate every depression in the hills. We have before alluded to the spotted look of our own particular neighbour after a flood, but it is indeed Ben Breac—the speckled hill—after such partial thaw. Fairly proportioned between pure white snow in the little gullies and the dark of the mountain, the division of snow and rock being sharply defined, the effect of the hill was most remarkable, and the freaks of the sunlight over it were a sight to see. But we must not be deluded into descriptions of the winter evenings now, with the young moon and the sinking sun struggling together over an empire of ice, and snow, and silvered splendour.

We strolled along the sea shore to-day, and coming to a small stream entering the sea, were struck, as we have often been in frosty weather, with the look of the fresh water as it mingled with the salt. Ere they meet, each water is sufficiently clear, but where they rush together there is an oleaginous appearance as if they could not intermingle, and the particles of fresh water were disconnected, and flowed oil-like about till they reached the surface. The appearance of the water junction reminded us strongly of heavy oil in a quantity of water. The

Jan. 6. water of the sea is remarkably clear, and readily seen through, in sharp, frosty weather.

As we trample along the crisp upper beach, we kick first one and then another vertebra, which attract our attention from their great size. It is soon apparent that the wreck of some large fish is all about, as first the large fin bones, and then the disjointed bones of the head, are met with. But no very distinctive parts are found until we come to the fragment of an "angle," and then the whole pieces together in the mind, although the sharp serrated teeth of the great jaw are absent. The animal had disintegrated and gone to fragments, so far as the skeleton went, but here is actually the whole of the stomach and part of the skin entire! What more could be wanted to prove the creature an angler or toadfish, whose stomach is so remarkable for size and toughness, and many specimens of which seem so strangely and unaccountably to come ashore on all our coasts, probably victims of their own unreasoning appetites.

A day or two ago we were scanning a shallow pond of bivalves, ere the tide should return to cover them with a fathom of water. Poking here, and peering there, at possible foes of the treasured natives, we scarcely distinguished a great rough head of the large-headed cottus from the rugged back of an elderly oyster. It had been left behind by the tide, but had sufficient water to keep it comfortable, and may have been regaling itself on the little gobies that love to haunt the still water of the ponds. But it had evidently espied us, and kept perfectly still. Breaking a forked twig from the wattling, we slipped the point of the twig in at the gill and out at the mouth with a single movement, the stupid fellow making only one desperate wriggle as he felt his "lung" tickled. Once

captured and carried on the forked twig, he never made Jan. 6.
another wriggle as we took him home through the fresh air. Here it underwent that peculiar operation to which all fish flesh is heir when it comes ashore. No wonder she was lazy and unwilling to struggle against her apparent destiny—for a lady we have meantime discovered her to be. Full of roe at this season, she had apparently retired to the quiet of the pond for maternal purposes; and so, having settled her sex and condition, we turned to her distended stomach to find the gobies. Gobies, indeed! A large specimen herself, quite eight inches long, the first thing "exhumed" from her interior was one of her own race, quite 4½ inches long! This was followed by two crabs, and various trifling etceteras. Considering the numberless eventualities that prevent fish reaching maturity, it is probable that her ladyship did quite as much to keep down her race by that one meal as she would have done to perpetuate it had she lived to deposit her ova.

The boat we had anchored out during the year has been twice fouled; the first time we took her ashore in the early summer, she was covered with barnacles (balani) deposited in the spring; while when next drawn up we found her coated with young serpulae, well advanced, that must have been deposited in the autumn. This is quite a distinct proof of the several spawning seasons in our loch, this year, of these two widely different animals; both of whose spat must have been similarly floating on the surface of the water, to have become thus attached. We observe, in our erections in deep water, that these barnacles are always in greatest abundance at the very top. In fact, it seems proved that a large proportion of these creatures, as well as fishes that throw fine spawn,

Jan. 6. are developed in embyro near the surface of the water, and under the direct influence of the sun.

Jan. 13. It is often interesting to note how well popular ideas sometimes coincide with those inculcated by science, seeing we are so frequently impressed with the wholly erroneous character of common observation. It is right that we should thus consider both sides. The other evening we had a magnificent halo around the moon for the whole evening, following the moon across the heavens, and helping to explain the character of these phenomena. The sky was all sufficiently clear, the stars peering through all over the heavens, and no clouds apparently about. And yet this great circular, cloudy-looking phenomenon followed the moon steadily, retaining the same size and position with relation to its brilliant centre. It was evidently best explained by supposing a light mist in the atmosphere, upon which the moon's rays produced the peculiar effect, just as the sun's rays produce the rainbow on the spray of a great waterfall. Thus, the greater the diameter of the halo, the further it must necessarily be from the moon, whose rays were so much more divergent before meeting it. Now, a common saying among the weather-wise in the country is, that a halo foretells a change in the weather, and the larger the halo the sooner the change will come. This is exactly such as might be foretold by one who, seeing such an evidence of vapour in a clear sky, would understand that the larger the halo, the nearer the earth must the atmospheric stratum of vapour be. And so it turns out, a heavy fall of snow occurring within a day or two of the phenomenon.

If the weather softened while the snow came, it has

made up for it since, as the last three nights have gone Jan. 13.
on increasing in intensity of frost, until it must now be almost desperate for the birds to procure any food whatever. All the pools and ponds among the hills are hard, and within these last three days the bay in front, that is usually thronged with waterfowl, is empty, as the whole foreshore is covered with a hard sheet of ice, through which no bird could penetrate. Our loch, which even two months ago showed a fair quantity of widgeon duck, now scarcely contains any, and a similar complaint is made as to Loch Etive ; so we suspect the extra severity of the winter has driven these birds to still more southern latitudes where they may have more chance of a livelihood.

On Wednesday afternoon we came down on Loch Etive, opposite Cruachan, and had not gone far along its shore ere we came upon an evidence of the severe weather in the north. This was a fine large bird quietly feeding almost within stone's throw, and within a hundred yards of a cottage. At first we could scarcely credit our eyes, and then we could hardly believe our ears when an old woman asserted it was not a tame bird, but a wild swan, and that it had been there for two days. As our party retraced their steps by moonlight, this time armed, we left the road and crept furtively towards the spot about which we had seen the queen of water-fowl. No compunction of conscience stayed our hands, but with the steps of the midnight spoiler we crept along, until at the most likely spot a large white object seemed to be sitting at the edge of the ebb ! Guns were s lowly raised and in another moment we hoped to clutch the long white neck of her majesty, when an ominous movement and cackle stayed our hands. In another instant a

Jan. 13. general movement took place, and it was then clearly demonstrated that the swan of the afternoon had given place to the household ducks of the adjoining cottage! We congratulated ourselves on our escape, and no doubt the swan had equally good reason to congratulate itself upon its previous departure to one of the adjacent islets on the loch. To-day we found everything frozen hard, and the ice so thick on the loch itself that we determined to have an hour or two after wildfowl, as the weather seemed somewhat settled; but we had not long started ere we found all birds so wild that it was naturally supposed a change was at hand. Ere we returned homewards the sun was going down in a blaze of cold yellow, and the clouds were breaking up in heavy masses from the west, while the wind had veered from south-east to north-east, finishing so bitterly cold that the very birds were either benumbed, or flew madly about to warm themselves. Strange how these wild fowl exhibit such an irritable restlessness before any important change in the weather.

We were afraid that severe weather, and the raid of a birdcatcher, had entirely relieved us of our goldfinches; but we are glad to hear that several have been seen in the Connel district quite recently. They used regularly to nest in Benderloch at one time.

The wind yesterday was blowing very "snell," and soon blew the bulk of the dry, powdery snow off the exposed highways, and formed drifts all along the road sides. For a time the whole place looked like the descriptions of a great volcanic eruption, where the whole country was covered with smoking scoriæ. The fine powder, blowing continuously, imitated smoke closely; but the sound was quite peculiar, and more resembled

the sand on a sand hill under a gale. To-day the hills and country-side are all smoothed by the wind into a series of beautiful curves and sweeps, except where a very sharp precipice breaks the general softness and elegance of outline. Its general appearance is in marked contrast with the previous snowfall. Jan. 13.

An oyster-catcher that we recently disembowelled was found to contain about a score of limpets, which it had skilfully secured from the rocks. We have often observed these birds near high water, when cockles and other such food is unprocurable, busily engaged upon the rocks; and on visiting their field of operations we have found an abundant show of empty limpet shells; but we never before caught them with the plunder in their possession. Whether this one had taken more especially to limpets, owing to the severe frost, we know not, but the labour had been sufficiently trying to leave a most distinct evidence of its severity on the end of its strong bill, which was roughly marked at the end. These birds are extremely active and very knowing, and must be well acquainted with the "trick" of taking limpets off their point of fixture. A friend, who combines a shrewd humour with a knowledge of Nature's byeways, was rambling by the seashore with a town acquaintance. Pointing out the strange-shaped conical shells on the rocks, he jerked them off suddenly with a rapid movement of his thumb, displaying the helpless mollusc thus exposed. Then, betting with his friend that he could not thus remove them, he touched one after the other with his finger, observing—"take off that, or this! or that!" Of course, as each limpet found itself thus an object of attraction, it at once grasped the rock with its mantle—like the "sucker" of a school boy—and then the shell

Jan. 13. might be kicked to pieces ere the creature left go its hold. Ignorant of the ways of limpets, the visitor from the city in vain half-dislocated his thumb in his efforts to remove the now watchful shell-fish. But the oyster-catchers are thoroughly equal to the occasion, for they rapidly approach the limpets, and by one rapid, dexterous movement sideways, loosen the creature's hold, and devour him. Thus one bird had devoured quite twenty limpets in a very short time, for not one was otherwise than whole and fresh. Even at the moderate computation of forty limpets each per day, the flock of oyster-catchers in Loch Creran would eat more than a million limpets per annum.

Jan. 20. The continued severity of the weather having stopped all outdoor labour in the country, we determined once more to take to our boat, and see what the outer loch could show us at this season of the year. The ladies cast longing looks at our preparations for a cold pic-nic on the island, but visions of frozen toes and nipped fingers decided them to remain under shelter.

So the seats were rubbed clear of ice, provisions stowed away in the stern, and we tumbled into our places, having no fear of lacking rowers, as only by reasonable exercise could we keep ourselves alive. With one careful try for a mallard in the shelter "round the corner," we went down with the ebb tide, here spying a widgeon among the seaware at the foot of the rocks, there unsuccessfully stalking a wary heron at the promontory. A huge black figure goes flapping past; but a cormorant is too tough a bird for ordinary shot at that range, and so he goes seaward unharmed. More than one seal's head crops up out of the water, but one more indifferent to our

presence than the rest sails quietly down the rush of the Jan. 20.
current, with head and neck well out of the water; and he is almost met at an angle by a splendid great northern diver, speeding seaward alongside. After some manæuvring, we manage to get pretty near the big diver as he comes up, and rapidly exchanging our oar for our weapon we fire a snap shot at the exposed head; but he dips to the flash, and is too wary to give us another chance. Quite an assemblage of herons are perched along the edge of one island, all intently watching the water, but with a good corner of an eye for any wandering foes, for few birds are more wary than his long legged lordship. They rise quietly in good time, and sail steadily away as we approach.

Unaccountably, not a "dooker" have we met on our way, either in Loch Creran or Loch Linnhe. Creran is at present full of seals; we saw five heads above water at one time close by us, while a friend saw fifteen opposite his own dwelling. This means fish, as this is not the best season for these animals with us, and they must have been attracted by unusual supplies. But not a single specimen of the smaller seabirds have we seen of late, and it cannot surely be want of supplies; while as for gulls, we have far more than our quantity, which may account for complaints of their absence elsewhere.

But we are speeding on to our goal, and soon beach our boat and leap ashore. A few common gulls are floating around, and scarcely rise or move at our approach, while a few specimens of the at present ubiquitous and aggravating rooks show themselves. But what a change from our visit in the early autumn. Not a hawk to be seen anywhere, not a blue pigeon on the cliffs, although careful steps and watchful eyes encircle them. Probably

Jar. 20. the pigeons are seeking to fill their crops in rich neighbouring Lismore, and the peregrine may be watching some flight of widgeons in one of the quiet bays. Not an otter or sign of one in any of his haunts, all of which the rough terrier scornfully repudiates. As we tramp over the crisp snow we have a feeling as if the imprint of a foot would be so much out of place as to scare us, and any sign of recent visitors be a source of wonderment. But what is that? We stop and gaze in astonishment for a moment, for there is a veritable snowball lying in front of us, while the mark of its course over the snow is also distinctly visible. Why! the snow is only two days old, and not a footstep have we seen. We kick the ball, as large as the head, and it flies into fragments, while turning round we encounter one or two more, and the problem is solved. They are rolled by a rough fellow called Boreas, who has been playing around of late, and are really wind snowballs, where the wind has formed a nucleus in an eddy and whirled it along some distance.

The sun is sufficiently strong to melt the thin ice of the shallow, marshy ground, and, consequently, afforded food for a few woodcock, two of which we flush on our walk. These are the first we have known in this island. Curiously enough, the cattle that have always been comparatively tame on our former visits now prove very wild and timid. But what a change on the other inhabitants! We are actually followed about by two of the goats, bleating in the most friendly manner, although on our former visits it was quite a difficult manœuvre to catch a glimpse of them on the cliffs. No doubt hunger makes many creatures tame, and few wild animals can be well fed this severe and long continued frost; but surely goats, with

their sharp hoofs, are as capable of supplying themselves Jan. 20.
from amid the light coating of snow, as any cattle can be! We cannot well account for the different effect on the two classes of animals. This weather, however, is trying all animals greatly. The deer are crowding down from the hills, the stags in wretched condition, but the does making free with the farmyard stacks all around during the night. A day or two ago we came upon a stag not 40 yards from us standing in a hollow near the road and looking round at us curiously. Walking over to it, the animal set off at a shambling pace, still keeping its head in the same position. It was some time ere we understood that it was so much deformed as to be unable to look any other way. It seemed at first as if its neck had got a crick, and, in such cold weather, if it had long remained looking round, as a deer sometimes does look, it might well get stiffened through suspended circulation on one side. However it arose, the poor animal could only move forward like a circus horse, with a high-stepping motion, its poor twisted head bobbing like an imbecile's.

We are wandering from the island, where meantime a curlew and heron have fallen into the sea under our guns, the latter only badly winged. The terrier is sent in for it, but, although it pluckily brings it ashore, does so at considerable expense from the severe dabs of the dagger-like beak, a beak than can transfix a swooping hawk.

It takes hard rowing, and occasional nips, to take us home in the cold evening air without being frozen; and we dance up the gravel beach joyously, to think our toes are still our own. No wonder seabirds are so hard to shoot, to be ever "afloat on the ocean wave" in such weather must demand a robust constitution.

The birds about our door, with no cat to alarm them,

Jan. 20. are more like cage birds; and we actually cannot keep one particular redbreast out of the rooms, through all of which it flies unconcernedly.

While a neighbour was passing round to our kitchen the other day, two blackbirds were feeding at the dish put out with the hen's food. Now, a blackbird is of all birds the shyest and most nervously timid, and at this season of the year, with no ladies to quarrel over, they might naturally be expected to be the most peaceable; yet these two birds got up a fight over a plentiful repast, when amity might have been expected to creep over them with the swelling stomachs, and they fought so persistently, and with such blind animosity, that Donald simply stepped quietly over and placed—not even tossed, but placed—his bonnet over the pair of them! No doubt they would cuddle together when cold and hungry, but they could not stand prosperity!

Jan. 27. "There's a hole in the roof, and the snow is coming through," said the little fellow to his brother as he opened his eyes in the morning. Startling as the statement was, even to the sleepy, opening eyes of the elder, it seemed true, for, in the little room in which they lay together, snow—unmistakable snow—was really falling. The explanation seemed simple enough. The room faced the south, and being of small dimensions, became very warm during the day when the sun had been pretty hot. The frost on the window had thus been dissipated through the room in a fine vapour, to which was added during the night the warm breath of the youngsters. In the chill of the breaking morn, when it is always coldest, the vapour had gathered and come down in large, loose, half-frozen flakes, to the complete disorganisation of the

waking minds beneath. In fact, they had a complete Jan. 27.
snow-storm all to themselves!

More than one peewit or green plover has wintered with us, and quite a number of the beautiful sprightly golden plover are now enlivening the shores with their active ways and plaintive cries. We have never met the grey plover hereabout, and as we smoothed the beautiful plumage of a green plover, we inquired if our friends knew the others as visitors. One keen observer had seen several on the hills, but, as another who had rambled often all over the hills about, gun in hand, knew nothing of them, we concluded this interesting member of the plover family was at least uncommon.

Folklore! said a quiet voice, as we again referred to the bird we loved to see on the hill or the table. Once upon a time the grey plover was a bird of the woods, and loved its home amid the leafy branches, where it could always find shelter and food, and a secure hiding place, and where, more than all, it could be sociable and friendly, keeping good company, and holding up its head with honest pride in the assembly of the birds. But it came to pass that there was not room for so many birds in the woods, and it was decided that either the grey plover or the missel-thrush must take to the moors. The question was debated with great dignity, and, although somewhat prolonged, through the absence of obstructives it was at length decided! Already the thrush family was well represented in a more sweet-toned and less questionable member of the family, while no other plover was admitted to the woodland; so the assembly voted the grey plover into their woodland brotherhood. But the missel-thrush was not thus to be got rid of. As he left the assembly in a deplorable humour, he seized a burning brand from

Jan. 27. the fire and therewith assaulted the plover, to his complete discomfiture. So, ever since, the plover frequents the moorlands, with the great burnt mark on its breast, where the brand had scorched it black; while its plaintive cry may be heard as it timidly protests against its ill-treatment and lawless expulsion.

Carefully, Donald! keep her more in shore, we exclaim, as the boat runs by in the ebb tide over the tangle beds into which we are prospecting. Little is to be seen, and less to be done with our finger-tips benumbed; so, finding nothing under water to repay us, we expend a shot or two on a passing curlew or oyster-catcher, on our way to the narrows. A miniature curlew comes up against the wind and drops to the gun, and a hunt for another wounded bird ends uselessly. The small specimen turns out to be a redshank (*scolopax callidris*), and very closely does it resemble its larger relative in appearance and manners. As it rises and exposes the whitish tail and tail coverts under the dusky wings, with its red legs and beak, it is certainly a very pretty bird. Even higher on its legs than the curlew, while the neck and beak are shorter, and the latter less curved, it has a strange, stilted appearance as it stalks about the foreshore.

We have now reached the point near the narrows, and slip back carefully, as the sheltered nook beyond the point frequently contains a flock of wild ducks. Unluckily they are too far round, and ere we come within view of them they rise with a splutter and a "quack, quack," circling around us so as to fly against the wind, as most birds do under such circumstances. But now we must moor our boat and wait patiently, as the channel is still a great muddy flat, dotted with birds and sprinkled with sea ware. Let us spend the time in a stroll around

the edge of the water, where we may get a shot at a duck, Jan. 27.
although all is too exposed to make this likely. All around the curlews step with their bobbing gait, busy but watchful; here and there the white and black plumage of the oyster-catchers flash as these restless, active birds, with a few rapid steps, pounce at some helpless mollusc, or leap up with a zig-zag flutter to some new feeding ground. Here, skimming along the sand where it is dryer, is a flight of ring plovers or ring dotterels, with their short, cosy necks, as they feed on the minuter animalculæ. We get reckless as we proceed, and walk boot-deep in water over the beds of *zostera marina*, that here and there break the expanse of sand and seaweed. The ducks are drawing together silently on the water's edge, and at length first a fine mallard drake and ducks, and then a vast flight of widgeons, rise with a sound of rushing wings, and stand across the bay. There is a flutter of red and white, and two jerky redshanks keep just well in front; then more mallards, with the gleaming blue of the drakes flashing in the sunlight, quack out as they gather and go. Flashing out as they skim past with a sharp, familiar, plaintive call, go the wings of a score of elegant birds. How the sound makes us start! Have we not heard them so often in distant moors preparatory to a delicate meal, for this is the time for the beautiful golden plovers to frequent the coast, where they can readily obtain a dinner when the moors are hard as the granite hills.

What a profusion of shifting, voluble life! And how terribly busy and in earnest they are, for all know well that the dinner hour will soon be over, for the tide is creeping stealthily inward, and very shortly our boat will be rubbing her keel on the seaweed, on the way over

Jan. 27. the very spot where we now watch the curlew thrusting his bill after the seaworms. Back to the boat with our garnered harvest of feathers we hurry; and the flowing tide as it rushes to claim its domain, so lately yielded for an hour or two, sweeps our boat through the narrow passage, and scatters the flocks of waterfowl along the steadily narrowing foreshores. Peeping over the gunwale of the boat at the lately recumbent seaweed, now proudly waving in its natural beauty, we can scarcely credit the sudden change in the scene, or imagine the wonderful alternation of conditions to the multitudinous life beneath us.

FEBRUARY, 1881.

Feb. 3. There seems as if a universal shout of joy were coming from the small birds, for although we had a fresh fall of snow the evening before last, and a pretty sharp frost, yet the thaw has recommenced, and we are black all around, except a few white gullies in the hills. To-day, in a short stroll under the trees in the rain, we heard the finches singing gaily, and observed quite a number of small birds; although for some time during the late frost they seemed to be almost annihilated, and the woods at least to be absolutely silent. The sufferings of the birds must have been beyond conception; the poor blackbirds were skin and bone. A friend and neighbour observed a blackbird strangely employed near the house, and upon going over to examine its labours, discovered to his horror that the poor bird was actually driven to cannibalism through starvation! A female blackbird was lying dead, a mere skeleton, and its companion had picked the feathers neatly from its back, and had already

made a deep hole into its vitals! With such a deed occurring in mild Benderloch, where we have suffered none of the extremity of cold, nor heavy snowfalls which fell elsewhere throughout the kingdom, what must the aggregate horrors of the winter have been! In travelling southward, before the thaw set in, scarce an inland loch but was frozen all over, and, where a small patch of clear water was left, there a few ducks were to be found —probably diving to the bottom at the peril of their lives for plants, or watching for the chance of a fish. Every stream from the hill-sides was iron-bound, with at most a trickling rivulet of ice-cold water gurgling underneath the frozen caverns, or slowly adding to the solid mass. We fear the trout must have suffered severely, and the masses of ice may seriously alter the salmon-spawning beds of many a river. Feb. 3.

We have several times of late referred to the fact of skylarks being common along the shore with us, and on a recent trip we had a curious commentary on the reputed dearth of skylarks throughout the country—a scarcity which more than one writer suggested as co-extensive with the progress of the starling. Now, it so happened that the same train that bore us southward carried two dozen larks to the great city from Benderloch, a similar consignment having preceded them. These came from Loch Linnhe side, where the starling is most plentiful, and the captor informed us he could get any number of larks he wanted, as they were "quite thick" about his place. This is an interesting circumstance, as proving, first, that the starling theory of extermination is out of the question here, and also showing that our peaceful district is being drawn upon for songsters to supply the bird fanciers of Glasgow. How long will it be ere we,

Feb. 3. too, are telling of a scarcity of skylarks in Benderloch? As one instance of the wretched results of this same system of bird catching for the city, we may allude to the few goldfinches we mentioned as lately frequenting Ledaig. These were decoyed during the recent cold weather, one of them being captured, and a second "annexed" by the cat ere the bird catchers could secure it. Thus it is not "natural" but unnatural causes that have cleared out this beautiful bird and fine songster from our neighbourhood, where, but a few years ago, its presence in gay groups enlivened the sheltered woodlands. We hope those who have influence in the Highlands will frown upon this wholesale expatriation of our finest birds, or else we will soon have to import them afresh to our lifeless plantations.

The change in the weather, and the approaching gale of last night, unsettled all the birds, the more so as a pretty severe easterly wind swept the loch keenly. Mallard and widgeon were ever on the wing, the gay plumage of the oyster-catchers, in immense flocks, fairly flashed in the sunlight; the rapid nervous flight of "saw-bills" crossed and re-crossed from shore to shore of the loch, and all the curlews in the district seemed to wish to be in every accustomed haunt at the same time. And no wonder they were excited, for yesterday was the first day for many weeks they could get a good feed all over the foreshores. A good ebb tide, all the ice away, and weeks of leaway to make up, so they must have been overjoyed, and could feed on the benighted lugworms who had forgotten their existence, and the unfrosted shell-fish, who had been all the time in a cockle's paradise.

We were surprised to see notice of the remarkable

numbers of wild-fowl frequenting the Clyde, and yielding sport and profit in their pursuit. This must have been in specially circumscribed areas, as the great mud-flats on the sides of the river best known to us were quite clear of birds lately, where in ordinary years they are legion. This was also remarked upon by residents alongside, and it may be that the birds noted elsewhere were northern visitors, while the local flocks had gone elsewhere. No doubt many birds have made the fatal blunder of going southward, in place of remaining in the hard but not hopeless weather of the Western lochs and rivers. Feb. 3.

The gale was stiffening yesterday afternoon, and was blowing pretty heavily on our usual landing place, just at the lowest of the tide. The ebb was so low with the east wind blowing out the loch, that we were unable to land for some time; a long, shallow shore stretching out from the steep gravel bank, with the waves rolling rather heavily over it. So soon as it was deep enough to permit the passage of our keel, we ran in the boat, and leaped out preparatory to drawing it up the beach; but, just as we turned to do so, we observed a movement in the rough water near the edge. Pouncing at once upon the object, we pitched the creature with both hands up the beach, with the expectation of finding a conger eel or a lythe that had ventured too close in shore. What was our astonishment to find a good codfish, about 18 inches in length! We have taken many a good trout with our hands in boyhood, but never before had we the satisfaction of similarly capturing a deep sea fish. Some one suggested it was blind, but except the natural goggle-eyed result of a good knock on the back of the head, no deformity or disease was apparent. It was in capital condition, with a healthy, wholesome-looking liver, and was

Feb. 3. supplied with viands that must have taken two good eyes to capture. First, two good flounders, then a crab, and lastly two small gobies. Whether the fish had ventured too far in after its prey, and been forced by the rough water into still shallower, or whether it had latterly made an unlucky bolt before the rush of the approaching boat, the result was that we made the strangest capture we have effected for many a day.

Feb. 10. We have more unsettled weather this last week than we have had even during our most severe storms, as it has hopped from frost to mild, rainy days, and back to frost and snow, once and again. Sometimes this has all come upon us in the one day, and if the ordinary human inhabitants do not feel completely put out with the astonishing variety, there are at least some others that seem to have entirely lost reckoning of the seasons, and are unable to make up their limited intelligences so as to decide which course to take.

Thus a day or two ago in Oban a butterfly made its appearance, and coursed in the most ordinary manner about a public hall. A regular, ordinarily-speckled witch butterfly, say the spectators, but it was not in the "witching time of night" that it crawled into active existence, but in broad daylight. Is not this a strange commentary on the severe winter, over which we have all been groaning? Could this creature have emerged from its chrysalis state without a quiet spring temperature, proving that, despite the apparent severity, we in this quarter must have experienced interim times of comparative mildness, sufficient to have developed the creature from its dormant state of transmigration?

But not alone this particular stranger, which may have

been deposited near some artificial heat producer, but Feb. 10.
numberless blue-bottle flies have been crawling about the various dwellings in our neighbourhood, in the most aggravatingly somnolent state. Occasionally, during a bright blink, they evince sufficient energy to induce one to destroy them without compunction, but to chuck a dead-alive creature that has not had a fair share of amusement in life into the fire, does not fall in with one's ideas of the compensating clauses in the leases of flies' lives! Where do the creatures come from, all 'of a sudden, as if they dropped from the clouds, or evolved themselves out of the dust of the room? This is a question constantly asked us as some sudden invasion of our writing-paper or our table-cloth on the part of a more or less active blue-bottle calls attention to the fact of their existence. The fact is, that it is scarcely credible the minute apertures into which the parents of these creatures have crept to die, after having laid their eggs. Often they drop the eggs for security into holes, into which they themselves are wholly unable to penetrate, and doubtless a portion of these never can emerge. Remove an old roof, and under every slate will be found numbers of semi-dormant flies and chrysalis cases, either well supplied with inhabitants awaiting their sudden call into activity, or already cleared of inhabitants, and only showing the cast-off raiment of the distant creatures. Knock off a piece of wainscoating, or any loose boarding at this time of year, and the black masses underneath will sufficiently answer the constantly iterated question as to where the winter flies are stored.

We have been wondering of late what would be the final bird fauna of this country after a continuance of such severe and prolonged winters as this last. Here

Feb. 10. have birds been dying in multitudes all over the land sufficient to cause the hearts of all who sympathise with the feathered graces to sink at the thought of the coming voiceless summer; and yet certain birds seem to have escaped with almost impunity from the general hecatomb. Sparrows, of course, have been exceedingly familiar, and, like all scapegraces, have managed to tumble through; but it is not so much a matter of course that the bands of chaffinches are equally numerous after, as before, the severe frost. Gulls have apparently been also free of sorrow, as they now follow the commencing ploughing with apparently undiminished coolness and impudence, and in equally undiminished numbers. Rooks, like the gulls, have been almost scathless. The reason of their impunity no doubt lies in their omniverousness; as nothing comes amiss to either rook or gull. In consequence it is almost impossible to starve them, while, although the rook cannot venture on the deep like the gull, it makes up for this by superior intelligence. When the crops are down, and every farmer is on the *qui vive* to procure a few black bodies to ornament their "tatty bogles," not a rook can be brought within the range of a gun without an amount of dexterity and arrangement sufficient to prove their high intellectual standing. Now, they seem to be everywhere about your feet, despite your double-barrel, and they seem to the annoyed and disgusted observer to have carefully calculated the cost of a cartridge, and arrived at the conclusion that their dark but comely forms are not equal thereto in value, in the mind of the gunner. They particularly swarm among the seaware at all states of the tide.

And this calls to our notice the statement we have heard made by observers, that our Highland cattle on the

south side of Benderloch will freely, and at all times, eat Feb. 10.
the seaware on Loch Etive, while they will never do so on Loch Creran! This statement is not absolutely true, but we must acknowledge we have never seen them tackle the Loch Creran seaweed until the other day, when they were absolutely forced to do so from sheer starvation. We have been so accustomed to cattle living mainly on seaweed in the Outer Hebrides, that we noted the exceptional case more particularly here. No doubt the reason for the difference between the cattle grazing on the shores of the two lochs arises not from the cattle, but the grazing ground. The one loch is so distinctly salt, that it differs little in density in ordinary times, from the Atlantic; while Loch Etive is only sufficiently salt to grow superabundant seaweed. This cannot, of course, be so saline as usual, not only from the scarcity of salt water, but the excessive growth of weed, so the cattle must find it only agreeably and medicinally salt!

So completely have the small birds of late become limited in species, that we long for a few new figures, wholly contrary to the view expressed by the Benderloch lassie, as she emerged from the London Zoological Gardens, and came upon a few hens in the road. "Oh!" she exclaimed, with great vivacity, "isn't it a real pleasure to see a common baste."

"There is no light in heaven," nor have we had any Feb. 17.
for several days, and all we could do was to look out upon the dingy landscape and mutter—

> "Oh! the dreary, dreary moorland, oh! the barren, barren, shore."

Feb. 17. —with a muggy mist hidding the snow-burthened side of Ben Breac, that otherwise might have given brightness to the scene. So to-day we turned in despair to the sloppy hillside, where the slowly melting snow and ice rendered everything spongy. Stolidly we faced the hill, hopeless of any life save the cawing restless rooks, or a passing flight of chaffinches migrating across the moorland.

For a time we struggled on, most intent upon evading the morasses; and staring at every patch of unthawed ice as on a treasure trove, until we reached a rocky knoll, on which we turned and looked downwards, from the bleak uninteresting moor to the dingy, featureless shores. The tide was sulkily slipping seawards—for is not the moon getting beautifully less, and a good ebb tide not to be anticipated—and we look down upon a colourless world from a world of dusky hues. Who could feel invigorated in such a muggy atmosphere, and what could interest the eye or the imagination in such a colourless expanse? The question scarcely formulates itself when we knock against the boughs of the stunted sloe-trees, bare as the poles on the green. No! scarcely. They are gaily rigged in a wealth of gray lichen, and, as our eyes open somewhat, we find them looking extremely cosy in their gray mantles, and we look with respect at the quaker-toned, and elegantly-formed wrapper in a pauper land.

It is too wet to lie down, too depressing to press upward, and nothing to see around us, with even less apparently to meet us in front. So we feel inclined to return to the shore we have just left, when we catch soothing sight of a little bed of moss with the rushes thrusting themselves through, and under cover of the elevation on which it is spread a lump of ice lies still

unmelted. Actually something green, and, let us see! Feb. 17.
something beautiful. We look to our feet on crossing the soppy rivulet to reach it, and there, under our sacrilegious shoes, we find a soft mound, exquisite in form and shading. Delicate greens, yellows, and browns are speckled through it, and where the various grasses are poking through, it assumes still more agreeable shades. These grasses may be but withered remnants of last year's growth bleached with the winter's exposure, or they may be the first fruits of the coming spring. In any case, they help to enliven the little knoll.

"Bring us something green!" said a voice we left behind, and here is something greeny and lovely enough to carry. "Where all are blind the one-eyed man is king," and we feel as if our sight were coming to us, and our royalty along with it, in a blind and ungrateful, because unseeing, world. Nothing to take home indeed. Here is a stone over which the grey crotul has mostly crept, except where a small ledge supports a moss-growth of a different character. It takes us suddenly back to the olden days of gorgeous gimps, just a little stiffish, as if made from frosted silver, while the designer had changed his mind and twisted the original palm tree structure into a leaf of parsley. Our pockets gradually begin to swell with the moss bouquets we are culling. Here is a really charming rosette lying on this rock face. We have seen just such another in rich cream-coloured velvet, only without the delicate parsley fringe. Ye gold and silver smiths, treading in each other's steps and on each others heels, are you really hopeless of succeeding in such imitations, or are you blind to the beauties of these wondrous growths? Now we come on a bunch of imitation feathers made of silk, or on a soft thick bed of

Feb. 17. rose-tipped moss in a damper locality, blushing to be discovered. There is quite a forest of imitation fir trees, green as the forest in the merry month of May; surely that is a consolatory peep to the lover of sylvan scenery, and as we gradually peer more deeply among the miniture branches we half wonder there is no nest of squirrel or sparrow-hawk, cushet dove, or "piet" among the cheerful greenery. We must mix our bouquet a little, and here is a bunch of delicate silver grey, with a few stunted stumps of branches sticking out from the thickened stem. A burnt forest in a land of shades might produce such an effect, and one fears their fingers will meet as they endeavour to gather the weird specimen. So they almost do. They are a "hollow mockery" of the mightier growths, for they are merely delicate shells without internal substance.

"High life below stairs!" My lord duke, is that your grace? Do the Lilliputians dare to imitate the noble palm itself. Yes, and well too, for the curve of the leaf and roughened stem are "extremely well got up" in our land of pantomine. For it is not and cannot be an everyday world in which we are thrusting our rude hands. You with the sharp eyes, wearying for a new surprise and seeking something novel for your boudoir, or something startling for your amateur easle, just do up in a silver holder the bouquet before me, or transfer its varied hues and forms to the astonished canvas. Our pockets are stuffed with moisture-filled products, and we turn to seek the lowlands, when our eye falls upon a splendid group of cup-mosses, gently frosted, vaguely indeterminate in form and gracefully careless in distribution. There has just been a tremendous carousal at the Valhalla, the mighty cups dinted with the convivial fray are lying as

they dropped from the hands of the heroes, and the custodian, unwilling to lose the vision of the glorious revel, has dropped its miniature in silver on the mountain side. Feb. 17.

We have been in dreamland over the unexpected, because unthought of, bouquet, and trudge home with our trophy, ashamed of our unbelief in the beauty of the universe, and the prodigality of riches flung with bounteous hand over every foot of rock and yard of moorland. Yes! you and I may both travel from Dan to Beersheba and say "all is barren," forsooth; because our dulled eyesight cannot see the wonders under our feet, too common to be noted, and yet too marvellous ever to be properly appreciated.

As we pluck a few green leaves from the ivy on our gable, we note how greatly it had grown the last summer, during which it has clambered from near the middle of the wall well over the slates. Quite twelve feet of growth in a season, and that not straggling, but luxurious!

Yesterday was calm and clear, with a good blink of sunlight, and although the frost was still somewhat sharp, we decided to try the dredge. Hands have been so benumbed during the long severe winter, and the weather on the whole so continuously stormy, that we have scarcely once in several months dropped our dredge over the boat's stern. So we were the more anxious to see what was forthcoming, and also, if possible, to secure a dish of those delicious small scallops (*pecten opercularis*) that rival even the native oyster in delicacy of flavour. Feb. 24.

Our tub is ready in the boat for stray specimens, and other objects that we have not time to examine at the moment of capture, and, choosing out station, we consign

Feb. 24. the instrument to the water with fervent wishes for success, on the part at least of the scallop eaters. The ground we have chosen is very free from seaweed seemingly, and of course at this season is entirely clear of those numerous annuals that spring up in the summertime, only to die down and be thrown ashore in the autumn. Thus it is that again and again our dredge returns to the boat with the scantiest contents, having scraped the lengthened course in vain. A few scallops of two species come up, now clinging by their byssus to stray pieces of tangle, and now evidently scraped off other fronds that have not been caught by the irons. Several of the stalks of tangle (*alaria*) have evidently been growing lately, the stems and fronds being alike young and fresh looking, while it is difficult to believe, as the "roots" bring up their handfuls of seabottom, that seasons are at all considered at the bottom of the water. We will continue to call their attachments roots, although aware that of true roots they have none.

Here come a number of rough tangle stems quite covered with brown, slimy matter, that requires no second glance to see is the spawn of some fish, although which species we cannot at the moment say. Spider crabs of the most attenutated character, with limbs so long and bodies so small that we imagine they might lose a segment for some time ere they became aware of the fact. What is this? A little fish with a comparatively big head, very gelatinous, and looking as if it were an ally of some of those half-alive creatures we pull up in the summer-time, having just escaped from the egg. But this is none such, and we look at it twice ere we recognise that extremely interesting frequenter of our coasts, the little sucker-fish. Into our tub it goes, where it soon scuttles off, and curls

up in a corner in the peculiar sucker manner. Why is it Feb. 24.
that this little fish so commonly forms a loop with its tail, by bending it up until it touches its body, rather more than two-thirds the distance from the tail? Is it thus prepared to dash off at a moment's notice by straightening itself, or is it a continuation of the position it occupies in the embryonic stage, and out of which no careful parental discipline has forced it? There it is, however, and when we slip our finger under it to test its character the sucker at once attaches itself, and we hold the little creature upside down in the air, in which position its remarkable apparatus has the exact appearance of a boy's leathern sucker with a heavy strain upon it.

But our dredge is empty, and once more it goes over, so we must attend to it meantime. Great bundles of serpulæ, of course, we are bound to find on the ground we have chosen, and we are delighted to find attached to them in one case two or three leathern tubes containing living annelids. These tubes are generally based in the sand, and the attempt to obtain the living worms by digging them out at low water, for transfer to an aquarium, is always a difficult and generally a hopeless task—but here they are from end to end in a handy, portable form.

Little pea-crabs are never absent from anything that will give them lodgment; and here are quite a number of an entirely different character, that we chuck one after the other into the tub. There they form a restlessly-aggressive company, and give a very good idea of the mode of progress, and great speed, of the lobster, which crustacean they closely resemble in miniature, for they are only from one to two inches in length. They further differ from lobsters in having both claws the same size, and belong to the family of *porcellanadæ*. We seem to

Feb. 24. have come upon quite a haunt of theirs, and they are becoming inconveniently numerous among the gaping *pectens.*

The boat is now becoming littered with "marine ascidians" of all classes, rose-tinted, green-tinted, and from the size of a marble to that of a good-sized truncated carrot. Here at last is a little novelty infused among the congregated life, and a most amusing, and at all times interesting, specimen it is. As we lift it out of the net it is only a slimy and rather opalescent-looking creature, with a dazed look about it. Into the tub it is tumbled, and what a change takes place! Out come the long arms covered with suckers, and the huge opalescent eyes shine forth. It is a very small specimen of a cuttle fish, a real octopus, but not of a size to create either disgust or alarm, for it is little over an inch in length without its arms, (*sepiola.*) It swims equally freely forward and backward, by means of two closely-fitting, overlapping wings on each side of its posterior portion. Not only has it this marked advantage of swimming in either direction, with the huge eyes taking up the greater portion of its anterior half, and thus enabling it to see in the dark like a marine owl, but it seems to have the strange, chamelon-like power of changing its colour. At first it was all delicate opals or shades of grey and blue, and so it remained while we watched its movements. Another haul of the dredge and we turn to seek our friend, but for some time nothing appears like thereunto.

What is that on the coil of serpulæ? Brilliantly streaked, and blotched with dark purple, its tentacles curled in so as to be scarcely visible, the formerly brilliant eyes—like those of a ground shark—quite dulled so as not to attract attention; what a marked, and ap-

parently conscious, change has come over this nocturnal creature of prey. We say apparently conscious! but it may be as unconscious as a blush on a girl's cheek. If fear makes us pale, and shame red, despite our efforts to control these emotions, may not the creature's emotions similarly affect it in a wholly unconscious manner! Pale with the fear caused by its unusual and unpleasant position when taken, may it not have reddened with the rage of a hungry hunter when it placed itself in hidden ambush among the serpulæ tubes? Feb. 24.

MARCH, 1881.

The whole land is still under iron fetters, and the weather is as charming as winter can be, with warm sunny middays, and a bright and beautiful landscape. In a recent run to the further west we were surprised to find so little ploughing had been done, and, consequently, the farmers have not reaped the advantages to be derived from these later frosts, had the ground been turned up and exposed. In crossing over the Mull moors we met with no life, and the sheep and black cattle, with a very occasional hare, comprised the whole visible living creation. Humanity, however, had been stirred up by the long winter out of the ordinary stagnation of Highland farmers in that season, for skating, and more especially curling, had taking possession of the souls of the people. This Lowland Scottish game has of late been steadily advancing into the hills, along with football, under the Association rules, and hundreds of clubs have recently been established all through the North. This is a very interesting fact in the natural history of the country, as it shows an awakening energy among the population. As March 3.

March 3. a general rule, unless stimulated by some immediate prospect of gain—and not always even then—our natives do not believe in excessive exertion, and more especially do they look with scornful contempt on those who *amuse* themselves in such active ways. It causes an extra waste to go on in the system, and they must eat more to supply this, and consequently work more to supply the extra food. This is no stretch of fancy, but a mode of reasoning we have heard more than once employed by them on similar occasions.

The peregrine seems a comparatively rare bird in Mull, while with us it is the controlling hawk. Some days ago we were surprised to see a large hawk perching on a high tree-top in our own neighbourhood. At first, from its tone of plumage, we fancied it a sparrow-hawk, but its size soon determined otherwise; and although it was not usual to find peregrines perched on trees, we were forced to accept it as a young peregrine in immature plumage. Next day, near the same spot, a pheasant was seen flying hot haste, blind with fear and over-exertion, and at length drove itself with such force against a tree stem that it fell senseless, and so delivered itself, quite unintentionally, from its evident agony of mind. Of course it did not require two glances to find the peregrine in its rear. Their usual prey must have been killed off this winter, between themselves and Jack Frost, for so long as they can obtain rock pigeons around their own cliffs they would not venture amid the guns and dwellings of Benderloch. The same morning on which the pheasant was destroyed, a blackcock in similar peril passed our home with the peregrine close alongside, so that two of these birds are evidently cruising steadily in our vicinity.

Apropos of these birds of prey, they usually keep to March 3.
dainty birds, such as ordinary refined humanity most affect, and it is frequently adduced as a reason why we should not eat some classes of birds, that even the hawk will not strike them. This we have more especially heard observed about such vermin as rats; and if any cases occur in which a noble falcon will strike such prey it is put down to desperation. Now, we were looking at a splendid peregrine, in clean, hard plumage, feeding in confinement, and its food consisted of a fine fat rat. This it evidently highly appreciated, and its mode of holding on to it, as if afraid of losing the titbit, corroborated the assertion of the owner that it preferred a rat at any time to a rabbit, and would always take it first. This is quite in accordance with our own belief in the value of clean fed rats, now so thoroughly incorporated into the French cuisine. The Mull rats are said to be of more than usual size, and, unfortunately for the inhabitants, in more than usual numbers. In fact, the island in parts is overrun with them, and their exceptional size is attributed to the fact of a number of especially large rats having been introduced by a gentleman in order to train his terriers; and these getting loose, have improved the breed remarkably. Could the Mull farmers not get up a nice flourishing trade with Paris in these finely-developed stock? We would suggest that they should be carefully crossed, so as to increase them still more in magnitude, and enable a good ratting terrier to follow them to their lairs!

Although we have wandered so long about the country, we never saw a stoat in its winter's plumage until the other day. The beautiful white creature crossed the road before us with black-tipped ermine tail sticking out,

March 3. and after sitting up and peering at us with a blind look, or rather the appearance of a shortsighted person, plunged among the roots of a tree, that had been overthrown in the gale, and so presented a good retreat.

The rooks are actually nesting, having made "all arrangements" a fortnight ago. Such weather would cool the ardour of any bird less punctual and steady in its sentiments and attachments.

March 10. We had no sooner penned our last letter, and emerged from the beautiful nook in which we happened to be sheltered, than the storm came down upon us in all its fury. From this day week until yesterday we have been without communication with the South, and again to-day no news has reached us from civilised centres. The storm dashed upon us with little warning, and continued for upwards of eighty hours, blowing with, if possible, increasing violence. Crossing from the neighbouring islands in the evening, we happened to reach our own ferry at slack water and during a partial lull; but from that time for three days we were virtually imprisoned. Still, what was elsewhere a terrific snowstorm as well as gale only reached us as sleet, and north of Dalmally and along our coast the country kept up its character as the part of the kingdom that has had perhaps the mildest climate and been clearest of snow this season.

A great proportion of our evergreen trees had been demolished in the previous storms, and any with a weak tendency had of course gone, so we can show but a small list of casualties compared with the extreme violence of the gale, which in parts seems almost to have equalled that of December, 1879.

Our stock is no doubt suffering from the severe and

exceptionally prolonged winter, but we have no experience of the desperation to which many are driven within a very short distance inland from us. Indeed, we much question whether an invalid would not have experienced a more equable winter temperature here than on the most favoured portions of the English coast. March 10.

Now that the wind has left the cold, bitter, and dry east, we have mild, muggy, showery weather; and to-day we left in gentle rain to stroll through the neighbouring glen, and see what effect the recent weather had had upon the woods and waters. Imprisoned as we have been *nolens volens*, it was pleasant to bathe and cool our eyes on the wandering wavelets, and sink ankle deep at every second step in the beautiful and luxuriant mosses. Slipping a knife between the tree and its parasite, we withdraw uninjured some beautiful fungi from the trunk of the felled beech. Mingled brown and lilac, with the scolloped edges turned up with whitish pink, the two samples varying in the depth of the tints and the shape of the scolloping, we offered these elegant patterns of dress trimmings to the choice of a lady friend on our way, and for a moment imposed upon even a practised feminine eye.

The streams are running strong, and being fed with a thousand rivulets, while the birds are at length announcing the approach of the pairing time. Despite the general dreariness of the day the woods were enlivened with the song of the bullfinch, which birds in a busy group were restlessly active among the bare tops of the young larches. Both they and the chaffinch are now in spring plumage, and one of the latter that stood on a spray within two yards of us to-day, and poured forth its song, seemed almost irridescent with the play of colour. The squirrels, too, that were invisible during this severe winter,

March 10. when they were, no doubt, curled up in their nests seeking to keep themselves warm, are now re-appearing among us. We were amused two days ago with one in a small plantation of young larch. It had reached the top of the sapling, and its neighbour in the next tree was a bullfinch, piping to its heart's content. The squirrel seemed to be incited to reach as light a spray as the bird, and kept swaying on the tip-top of the tree in a ludicrous manner. Another of them we came upon to-day in a similar position, and the little creature at our approach stretched itself out from the top downwards, as if to conceal itself among the dull-hued branchlets. But, alas! for its efforts, its pure white breast was clearly visible, and what could the half-inch stem of the tip of a young larch do to conceal its comely form? So we kept it in a state of fidget and extreme watchfulness, ere we started it from its place, to admire its wondrous dexterity in its progress from point to point.

Wandering down the stream we came upon the carcase of a wild fallow deer stranded on the shallows, and already far advanced in decomposition. It had probably fallen when crossing, in a state of extreme weakness from starvation, and been drowned. They must have suffered sadly in other parts when those partially-pampered animals have fallen into the wretched condition they have been in here.

The state of starvation in which the deer have been this year must have had its effect also upon the plantations throughout the north. No worse enemies can be found for young timber, and we were lately noting with a friend the effects of their former assaults upon the young larches. Among hundreds of trees of a dozen years old or thereabouts, we scarcely found one that was not fatally

blemished from the teeth of the deer in its early stage of growth. The results are most disastrous to the future value of the timber, as the stems will never recover from the hideous deformity caused by the young bark being eaten off. March 10.

What with the enormous destruction among our woods through these continuous gales, and the injured condition of the young timber, we fear it will be long ere any of us see again the woods of Benderloch as they were but a few years ago. The effect of these gales may tell heavily on the price of our native timber a few years hence, when much that is now thrown on a glutted market would have come in; and many that are only fit for stobs, as they are, would have been ready to take their places had they stood the blasts.

The general desolation of the woods is only relieved as yet by the myriad tassels that have shown themselves in graceful profusion all over the hazel trees. They are most cheerful and hope-inspiring signs of the coming foliage. It is remarkable how little damage was done by the last long-continued gale to the great accumulations the rooks had already made in the tree tops. Although they have chosen for the most part the bare boughs of the beech trees, the nests in which must have offered some hold to the wind, yet they have stood secure, and no doubt will carry their usual complement of black nuisances in due season.

We have been well off compared with those to the south, for we hear of folks going into ecstacies over a few snow-drops, while we have had them in profusion for many weeks. But the spring is upon us with a rush, before the mild south-west and west winds, and the garden March 17.

March 17. is full of green buds, and the woods and hedgerows full of gay songsters. The birds are pairing or have paired. Yesterday we saw the lapwings hunting out nesting-quarters, and although only as yet in stray pairs, the remainder will no doubt soon follow. The herons have largely deserted the coast, and their characteristic figures are no longer so prominent, but there is much flying of long-legged visitants to and fro at the clump of Scotch firs where the heronry is placed, and long ere the month is out the nests will be tenanted with brooding mothers.

We have not yet met with frog-spawn in Benderloch, but we hear of plenty in Appin, more especially on the southern exposure, so froggy has not been idle, or absolutely hybernating, during the bitter winter. It seems, indeed, as if the exceptionally severe season, like a great war, or a famine, or a pestilence among mankind, so stimulated and stirred up the whole "animal life" as to increase the replenishing powers of those that remained. We have been much in the water these latter days, and nothing has surprised us more than the amazing activity of the sea life at present. The spawn of whelks,* as well as that of dog-whelks, is already plentiful; and a huge pile of branches that we removed proved to be almost coated with marine embryos. Placed there not two years ago, mussels of three separate spawnings clung firmly by their strong byssus to the stakes; and the sloppy embryos of numberless nudibranchs, and other mollusca, as well as various annelids and ascidians, besides barnacles and serpulæ, helped to variegate their bark. In many cases they were absolutely covered with

* Periwinkles (*Littorina littorea*) are so called in Scotland.

these numerous species and varieties. As the pile was March 17.
removed, among other apparitions a fine specimen of the five-bearded rockling (*motella quinque cirrhata*) appeared. This fish has the fine golden-syrupy appearance of a dweller amid the tangle stems, and as it was uncommonly "stout," although only 10 inches in length, we determined to have a more careful examination of its interior, and peep into its larder. When opened, to our surprise all it contained was a very small species of *purpura* shell—a single specimen too—its very comfortable appearance having been caused by its doubtless very uncomfortable condition! The poor fish had evidently come in to deposit its spawn, of which it contained ⅔ of an ounce, the whole fish, cleaned, weighing 3¾oz., or say 5¼ oz. altogether. The large, beautiful liver weighed alone ½oz., and proved the healthy condition of the fish. So here was a fish one rarely meets with, and which cannot on the whole be a common species, yet containing ova to be numbered by the thousand—in fact, over 100,000 must have been in this fish alone. How extremely lavish nature must be ere the race of rocklings, rare as they are, can be kept up to their usual figure. The small mouth and the armature of beards evidently point to this as a ground fish, frequenting, as a rule, outlying rocky islets. The shore where we were working was much more gravelly on the outer portion of the foreshore than that opposite our home, and a totally different class of shell-fish inhabit it from those that throng our muddy, marly little bay, (*venus exoleta.*)

The whole flat foreshore is beginning to show a growth of the sea-weed annuals, that grow up and die down every season. They have come early, owing, no doubt, to the mild temperature of the water, evinced by our

March 17. walking about over our boots in it for about four hours without discomfort; but so soon as we came among the shore pools that had time to adopt the temperature of the air, the difference was most marked, although a mild westerly wind was blowing.

Close by the shore, on an exposed sandy corner, an old, twisted willow tree, half driven by the blast from the bank it still clung to, is a prominent object. As we looked at it against the sky it quite gave one the impression of a lilac coming into flower. This appearance was caused by the little furry, lilac-tipped buds breaking from cover, and a very elegant and welcome addition to the awakening landscape it was to us.

On crossing a belt of woodland where we have always found the earliest nesting on the part of small wood-birds, we took a good look to see if any had been induced to commence operations. So far we could not see any new nests, but caught a peep of a last year's nest of the golden-crested wren. It was, of course, just where it ought to have been, and exactly where we would have sought it; and yet, although sharp eyes had been all about the corner in which it hung, it had quite escaped observation. This was our first certain information of the presence of this interesting little wren in our midst; but on our way home we heard its note among the tree tops, and a friend a few days ago had a good view of one of them, at a few yards' distance from him, on the opposite side of the loch. The nest is exquisitely constructed—as, indeed, are those of all the wrens; but its main interest lies in the fact that it is the only hanging nest among British birds. This seemed to be hung by long twisted moss, with some hairs; but we have seen them with charming little cords of sheep's wool with

which to sling the "cradle," or the well-furnished nursery: March 17.
for these diminutive wrens have often ten or a dozen youngsters to provide for at a time, while they are among our first birds to incubate.

When tramping about in the water, about a foot deep, we came upon two oysters in the hands of the Philistines. In the one case the foe was a large "dog whelk" or "buckie," which had fixed tightly to the flat shell of the oyster, preparatory to drilling a hole with its file of a tongue. No progress had been made, however, so we divided the couple and restored the oyster to a "free" captivity. The other case was a more unblushing piece of impudence, as a small littoral "dog whelk," scarcely so large as an edible winkle, had commenced operations. How it had got into the peculiar position it was in, would be interesting to discover, for the oyster was lying upon the whelk. Either the oyster finding itself attacked, had thrown itself over and so attempted to shake or crush its adversary off, or the oyster may have been thrown upon it by the action of the sea, and the whelk, alive to its character, at once looked upon it as a providential windfall to be taken advantage of. From its situation we are more inclined to believe that the oyster, by a desperate effort, endeavoured by squirting out water like a scallop to shift its position. That a small oyster can move to this extent we know.

Snow all down the hills, and a bitter north-west gale March 24.
blowing, while the lambs are everywhere appearing in a world that is little prepared for their reception. In Glen Etive they have not seen "black ground" since November, and in many districts no plough has yet driven a furrow. Were this the case everywhere it would perhaps

March 24. have been better, as the intervening spells of mild weather, however short, had enticed animals and plants into a progress that had better never have been made.

Last Saturday we came upon a thrush's nest in process of formation, and on Sunday observed the newly-completed sanctum of a chaffinch, into which the snow had been cruelly drifting. But the sun with us has heat in it, and it is aided by the sea and the sheltering hills, so that although the sleet, hail, and snow have been falling about us all forenoon, the occasional blinks of sunlight have quite dissipated it from the low grounds.

The rooks alone seem to pursue their nesting avocations quite regardless of the severe weather, and we went expressly, after the last gale, to see if the great masses of nests, quite unprotected in a leafless tree, had stood the storm to which they had been subjected. Although they had been exposed to the full brunt of the late great storm they seemed quite uninjured, which was more than we anticipated, from the dense and extended surface they offered. We watched a rook a few days ago as it sought to carry a very large piece of branch to its nest, and it went about its work in a very business-like fashion. First, it caught it towards one end and poised it carefully, then towards the other end and poised it again, then it seized it between the two, and flew a yard or so, again dropping it and trying here and there over a limited range to obtain, if possible, the exact balancing point. At length, after a series of trials extending over some minutes, it seemed to discover the best point, and flew away in triumph with what must have been a particular "corner stone" of its building. They have quite lost the listless joggle of the winter, and now go about with the business-

like determination of birds that have a definite and im- March 24.
portant object in life.

We have not even yet observed frog spawn on our own side of Loch Creran, nor, indeed, can it be wondered at. The other day a froggy found its way into the drawing-room, and, when the disgusted lady of the house went off to order its removal, it flopped after her, and for all we know to the contrary may still be in some quiet corner protesting against the most inhospitable spring. Whelk spawn in large masses was appearing before this last storm, but the most of it will now be thrown high and dry, and come to nought. No stranger object is to be seen on the shore than this mass of living creatures, light as froth at first, that gradually develops into whelks.

Yesterday we had a peep into a bottle with a good handful of dredging matter in it—just apparently as it had come out of the dredge. Two or three large shells (*cyprina islandica*), whose owners had long departed, their places being taken by the spawn of various mollusca, and the labours of annelids, formed the principal portion of the contents; but all about these were scrambling minute specimens of cuttle fish, the smallest we have seen in our waters. They did not seem to be much more than a quarter of an inch in length, although quite developed, and gave us an idea of the cephalopoda such as we never before entertained, never having seen any quite developed under at least one or two inches in length. A young oyster was attached to one of the shells, and a number of the smaller pectens had been dredged at the same time from the outer sea, showing that these shell-fish are not so scarce as one would expect among us from never meeting with them at table, where they are especially fitted to shine.

March 24. If cephalopodous molluscs are to be met with so very minute, it is certain that many of our embryos of very small size belong to this class, and it makes the difficulties of distinguishing the various classes of marine creatures, in their purely gelatinous state, all the more hopeless to an ordinary observer. And yet it is very necessary to a marine "farmer" of any description that he should be able to distinguish the face of his particular stock at their very earliest stages, so as the more readily to clear the ground of the more dangerous antagonists, ere they can dexterously avoid the conflict. The struggle for existence seems so much keener in the waters, and the powers of procreation of all marine animals so much greater in consequence, as the only possible hope to any species of surviving, that it is very important to make as great a clearance of the embryos of these enemies of our particular favourites as we can possibly manage. This is a matter very frequently overlooked, and, indeed, not at all thought of by many deeply interested in the matter, who look upon all students of embryology as amusing themselves in a purposeless and useless manner.

We were bewailing the absence of a single wild feather from the neighbourhood, the very sparrows being too cold to visit the hens' dishes, when the poor little redbreast that occasionally seeks our open door, finding the latter shut, came this moment and stood shivering on the hedge a few feet from the window, and called most unmistakably our attention to its destitute condition. When will this cruel winter cease from troubling? Until it does so we have only the same ceaseless record of our most delicate feathered friends extirpated, our domestic animals reduced to the last extremity, and only the hardier, less interesting, and more accommodating con-

stitutions anywhere left to continue the life of the land. March 24.
We hope we may ourselves be sufficiently uninteresting to be able to weather the ceaseless assault on our temper, our property, and our constitution.

We have now most seasonable weather, although some- March 31.
what low in the temperature. Sharp frost in the morning, bright sun at mid-day, and clear cold wintry evenings with sunsets full of beauty. Perhaps, with March just dying, it is scarcely proper to call it seasonable, but we had rather see the frost now than later on. With all the cold of these latter days, however, the snow has mostly disappeared from our neighbourhood, except a sprinkling over the farther hills, and a beautiful unspotted white cap on shapely Cruachan. He was looking his purest and best last evening as we passed from Connel, with the sun gilding his peak, and throwing his surroundings into relief.

A day or two before we had passed the same way, with the rain in torrents sweeping onwards before a bitter wind, and as we came to the long stretch of bleak moor across the Ledaig Moss we missed the friendly shelter of a luxuriant hedge that had hitherto run alongside the road for a certain distance. Like the sick cow, it had been killed to save its life, and now lay prostrate for its good. We no doubt placed too high a value on this hedge, as it was the only shelter on the waste moor; but yet it was of lavish growth, and the harvest of haws in the autumn was often a wonderful sight. So we deeply sympathised with our driver as we buried our heads in our plaids and drew the apron carefully over us, while he stated forcibly as his honest conviction that Ledaig Moss was the "coldest place on earth." The levelled hedge

March 31. has not improved it in this respect, and we can only live in hopes to see the belt of plantation come to maturity that is now trying to gain a foothold against the keen east wind from the slopes of Cruachan and the snell north-west gales from the hills of Morven. It will be of the greatest possible benefit to the traveller to and from the classic rock of Ledaig and all that it forms the "iron gate" to; and we can only wonder why those who have the ordering of such movements elsewhere, do not more frequently endeavour to make similar bleak regions more habitable or traversible for the coming generations, if not for their own.

We have never seen the little garden under the sun-favoured rock so destitute of flowers at this season, and except the hardy heather plants that have dared to thrust their purple beauty through the frosty air, under the stimulus of perfect shelter, and the condensation of the heat there may be forthcoming, few bits of colour are to be found around the charmed dwelling. There is scarcely a bit of green on the furze between Ledaig and Connel, all being dry as tinder; and at a time when we have frequently seen the roadway gay with the gorse blossoms, only a few half-frightened looking buds peeped timidly forth from one corner of a sheltering mass of withered bushes. We have been watching a bunch of yellow lilies near our door, whose opening buds have remained "opening" for the last fortnight, having sensibly resolved to await more suitable weather ere venturing further forth.

Not only has the vegetation taken warning by this last unexpected frost and storm, following the mild intervening days, but the birds have taken the alarm and again gone into flights. Nearly a month ago we saw lapwings evidently already paired, and seeking their nesting places,

if they had not already found them; but this week we March 31.
are surprised to see a large flight of them that had most distinctly no idea of pairing, and retained the gregarious habits of the winter. If they had previously entered upon their spring love-making and match-making, the contracts had been rudely broken, or at least postponed. We cannot remember a March having passed and left the peewits martialled in winter array before. The same may be said of the buntings, great flights of which birds we have seen within a day or two sheltering from the wind, in the leafless and cheerless plantations. Yet all that is wanted is a little warmth, food, and shelter to set them to work.

Little of either of these our hens and those of the district receive, yet the production of eggs goes on apace, and we are long out of dear winter and spring prices already. This, too, with the commoner Highland fowls, that are not specially prepared for cold, and must suffer considerably. We have had a handsome rooster deformed through his feet having been injured by the frost, and no creature has managed to get fat in face of the demand for caloric of the past months.

We were much amused yesterday by an instance of the force of instinct in a common barn-door fowl. It is well known how instinctively anxious many domestic birds are as to the choice of a nesting place, so as to be quite secure from interruption, and safe from prying eyes. This in the more thoroughly domesticated breeds, as the Brahmas, seems to have been eradicated or overlain by the more recent and careful education of the breed. But in turkeys it becomes a passion that must often be at the best watched and controlled, seeing it cannot be checked; and in ducks and common fowls it very generally requires

March 27. to be noted and allowed for. The hen in question had slipped quietly from a cottage door, and with all the precautions of a wild creature had arrived at the foot of a cliff, up which the ivy had clambered to flourish thickly and luxuriantly near the top. Up this the poor fowl partly climbed and partly flew, until it reached the thicker foliage; there it slipped in towards the face of the rock, where, in all probability, some crevice or platform had suggested to the anxious bird a place of absolute security for its nest. It would have been extremely difficult for anyone save a barefooted Highland lad to follow her, and in all likelihood she will be permitted to enjoy the satisfaction of bringing forth a brood in a position whence it will demand all her maternal care and stimulated intellect to withdraw the chicks in safety. How deeply implanted must this maternal habit of mind and body be, and how thoroughly it must have become part and parcel of every side of her being, when ages of domesticity could not eradicate the imperious command to provide a most carefully-hidden shelter for her coming brood. The tinkers who have occasionally of late occupied the cave at the corner of the cliff, within a mile, might well have taken a lesson from the anxious and careful fowl—*their* broods are as little cared for as prepared for!

APRIL, 1881.

April 6. The frosty sky was clear and cold. The dull red horizon fading into pale yellow, this again merging into delicate blue through a faint green, and reaching the dull slate colour of the "lift" to be lighted up by the silvery radiance of Venus as she shamed the duller gold of the five days' moon. We were traversing the wood in the

cold north-easterly wind, and unable to keep our eyes off the unchanging beauty of the heavens. This, however, was becoming affected by the progress we were making, and we soon came to take more interest in the foreground, through which we viewed the expanse of heaven, than in the starry firmament itself. April 6.

First we catch a glimpse of Venus through a stiff and stately evergreen, that thrusts its regular outline and dark but comely crown through the deciduous trees around. Gradually the immense facilities afforded by the light and the season for the study of vegetable forms forced itself upon our observation, and we came near breaking our shins over the interloping logs, until we felt in danger of a similar fate to that of the Eastern philosopher who stepped into a well when too closely studying the stars.

But really what an amount of individuality there is in those quaint skeletons stretching their bony arms all around us, and how easily we distinguish the various characteristic species in the otherwise dim light, as they depict themselves against the frosty sky-line. Here we see the straight stems and fine branchlets of the larches in clumps, in strange contrast to the figure of the free-growing ash, with its larger twigs, few in number, and curving with a somewhat graceless "insouciance." There, again, by the roadside, is a stately horse-chestnut, its branches also strong and careless of growth, with comparatively few branchlets, and these all curving *upwards*, and crowned with knobby buds. For is it not the foremost tree to leap into verdure, and does it not require to support uprightly the splendid growth of scented flowers? So its branchlets must make use of the strongest natural form, that of the semi-circle, so as to enable them to carry their handsome burdens. Scattered all about are

April 6. the beeches of varied form, but all of thoroughly characteristic appearance; for the arms are long and finely graduated, and the twigs are both numerous and of most attenuated form; indeed, no tree of them all has such a fibrous appearance as the beech, owing to these same numerous twigs, that are more deserving of the name of cords.

We don't require to look twice at that gnarled, rude, ungainly object with the contorted branches and the knuckly twigs, to tell that its form is that of the oak. This tree has a peculiarly hirsute appearance in the twilight, owing to the number of small fresh twigs growing directly out from the trunk, and giving it, with its general sturdy, knobby look, a thoroughly Tom Carlylish indomitable expression. We pass on and enter the region of birches. Only against the sky line, with the gentle moonlight glinting through, can the structure of the delicate birch be fully appreciated. Of all the trees of the forest the birch is the most feathery, whether in summer foliage or in the shivery winter condition of a deciduous tree. As we look through its faint but graceful outlines there is a weird feeling of wonder in the mind, as well as a sense of sympathetic community with this most charming of our vegetable productions—the lovely, graceful, lady birch.

There is a stately figure, with a most free and easy growth, the twigs turning in every direction, short in length and plentiful in numbers, and all with the buds breaking forth exuberantly. Very pretty it is with its plentiful promise, and it proves to be a finely-grown elm, and a very good example of a very handsome tree. No need to ask the name of that stately, sturdy, characteristic tree, every individual of which is as different as possible from its

neighbour, and yet it is wholly impossible to mistake a April 6.
single specimen for any other tree of the forest. The Scotch fir is, without any exception, the most thoroughly artistic production of our Scottish vegetable world, and as it lifts its big, shaggy Scotch head above the meagre stem, and stands out bold and uncompromising among its more accommodating brethren, we feel keenly the correctness of the name, and in nowise consider it an unworthy representative of "Caledonia, stern and wild." It is, indeed, a tree of most varied form, all within a certain unmistakable compass, but one very difficult to define or explain. There is one row of fine specimens whose forms are very distinctly impressed upon our memory as they stand out between sky and sea—each beautiful and interesting, but wholly unlike its neighbour —now a thin curving stem to a well-poised head, then a stout-limbed veteran with giant arms, set regardless of any symmetry except a Japanese picturesqueness. But why attempt to describe the peculiarities of a tree that is as self-willed in its growth as the hardy Scots who plant it?

Every growth from the vagabond hazel to the symmetrical and ever orderly spruce tree has its peculiarities clearly defined against the frosty sky. Even the peculiarity of the noble silver, that so frequently throws out a giant arm, to curve up at once parallel with the main stem, and a foot or two apart from it, is more readily noted. This arm seems to act as a balance for the heavier branches thrown out here and there, for the silver, with its dense mass of evergreen, is a tree of very disorderly growth.

But we have emerged from the woods and approached the loch side, where the mellow light of Venus shows a

April 6. brighter reflection than the moon, and silvers the even ripple daintily.

The hoggs are returning to the hills from their summer grazings, and what they are to eat will be asked with anxiety by many a sheep farmer, for not a blade of green is to be seen as yet on the higher lands. Ay! nor even on the most favoured Lowland nooks.

As we look out upon the foreshores, with the tide at ebb, we conclude this is not the case at sea, for a green coating covers all with a distinct shade. Walk over this ground and you find that not only is the ground beginning to be covered with growths of the green seaweeds or chlorosperms, such as the green Ulva, known as the green laver, but the rhodosperms or purple seaweeds are everywhere visible, making rapid progress towards maturity. They are certainly well in advance of terrestrial growths, and no wonder, when on Sunday the ice never moved or showed any sign of change of temperature on our well somewhat in the shadow of the bare larch branches,—no, not altogether bare, for the little rose-tinted buds are showing their noses, red with cold, —or spirits of turpentine!

April 13. There has been a "harking back" into feudal times of late in our thoughts as we looked out into the night, and saw from "cape to cape" the heather burning, like beacon fires rousing to a battle of the clans. Scarcely any sight can be imagined more replete with romance than a fine night in dry weather, with all the farmers hurrying to burn their proportion of rough overgrown heather ere the legal term expires. Gleam answering glare from peak to glen, from shore to hill top, wherever the overgrowth demands clearing off, with the weird drift of accompany-

ing smoke as if from an artillery fire, and the whole air full of "combustion." We have been specially favoured with groups of fires all at the same time, and doubly well do they show on the bosom of the loch. Those on the hill tops duplicated in a vivid blaze in the centre of the water, while the shoreward fires send downward a lengthened reflection that lights up a vast expanse of water. They vary so much in appearance and character as to be very interesting and beautiful, the thicker clumps burning with fierce energy in a confined space; while on the sparser hill tops the fiery dragon runs rapidly upwards, leaving a long gleaming tail for a time behind it. April 13.

There is constant divergence of opinion, and a fertile source of contention, between game preservers and sheep farmers over this same heather burning, although we cannot help thinking the two interests are not so much at variance as they manage occasionally to make out. Grouse-fostering demands that the heather should for the most part be kept down, so as to supply the grouse with plenty of young, fresh heather tops; and unless this is done, the moor will rapidly deteriorate as a grouse-carrying ground. At the same time the keeper naturally desires a proportion of hill and glen to have good cover, in which the young grouse may find security, and not be driven beyond bounds to some more secure quarter. Grouse as a rule do not *nest* in the thick cover. To the sheep farmer strong growing heather is almost entirely objectionable, providing no winter feed for the sheep, as the growth is too coarse, dry, and indigestible; while the wool gets torn and the fleeces spoiled in the case of sheep traversing such ground. The shelter it may provide in certain seasons will not balance these objections. Nor do we consider, on the whole, that too

April 13. free growth of heather favours the game greatly, for grouse will nest freely in comparatively open ground, and the loss of feeding ground through delay in burning overgrowth is very important. The underlying sward is certainly improved by moderate burning, providing a more plentiful feed both for sheep and ground game.

The action of apparently unconnected causes has great influence upon all affairs of life. One can never predicate what will be the result of any given line of action. We have before mentioned the great scarcity of partridges of recent years in a district that used formerly to be well stocked with them; and we never hitherto received any satisfactory explanation of the change. The reasons we have received from a competent authority in the district, however, appear sufficiently natural. It seems that since their presence in "flights" has degenerated into occassional coveys, great changes have taken place in the farming of the district. In the first place, the practice of wintering hoggs—that is, of keeping young sheep from the upland farms through the winter—has come into play, and these eat up everything edible that is left from the assaults of the ordinary stock of the farms. Now, there has been added to this the new machinery which cuts down the grain close to the ground, and leaves no stubble. This is a vast change from the old-fashioned long stubble with plenty of fallen grain under, that, between them, supplied both food and cover to the partridge race. So it arrives that this inroad of civilisation has commenced by driving away the partridges, and not until we arrive at the further stage of growing plenty of turnips—if ever this comes—will the needful cover for this fine bird be supplied. Indeed, the partridge may be

considered a lowland bird, frequenting rich stubbles and turnip fields. April 13.

We have recently been out with our water telescope "prospecting" the sea bottom. This simple instrument ought to be much more frequently in the hands of coast residents, as it would provide an ample store of amusement for many a well-spent hour. Originally merely a bucket with a glass bottom, it at the best is still merely a development of this in different directions, and in different materials. A tube with a glass bottom enables the observer to have all the advantages to be derived from a perfectly calm day. If the water has a ripple, it is destroyed as a transparent medium as completely as if it had a more considerable disturbance, and in either case, if the tube is inserted into the water below the point to which the superficial disturbance reaches, the eye arrives at a position in which it is undisturbed, besides having as much less water to see through as the tube is long. With this instrument in the hand, the passage of the boat quietly through the water does not check your vision, and the sea bottom can be scanned without having to wait for those clear, peaceful days that are like angels' visits, and come as unexpectedly as they come rarely.

The beds of tangle and alaria are choice fields for the exercise of the water telescope, and the eye gazes down into a world of infinite variety. Here are silver buckies clambering up the huge golden fronds; scallops fixed by their byssus, and sucking in the circulating water currents by a gentle movement of the shell; huge dog-whelks crawling over the more open ground in search of prey, or already affixed to some unhappy mollusc of a less robust character. The sponges, through the glass, with their infinitude of animals, as well as other classes of elegant

April 13. zoophytes, look very different seen in their natural life and beauty, from what they can do ashore. Large bundles of serpulae tubes, like faggots of sticks, lie here and there, with their crimson-headed occupants in full activity; and the oyster-encrusted stones are smothered with parasites of infinitely varied character. What a scene of life and activity all round. No necessity to say what distance from shore we are, as the boat drifts onward. The change in the character and inhabitants of the "region" we traverse proclaims each step of the way, and the tangle-beds themselves stop promptly beyond furthest spring tide, and warn us we are gazing down at what are virtually foreshores. How different they appear now; and as we cross their field of vision or check the light from reaching them, how the siphon tubes of the "gaper" shells are hurriedly withdrawn, and the brushes of the leathern-tubed annelids follow suit.

April 20. The progress of the intellectual development of the animal creation towards a more complex arrangement of its domestic affairs, is a matter that must be of the deepest interest, as a sure indication that Darwin must be justified in his generalisations! We in Benderloch have an admirable example of the progress in question, and our greatest local sages are completely at a loss to account for the phenomenon. To us, as to most also, it appears the more remarkable as arising in the bosom of a family not generally acknowledged as being in the foremost rank of the animal world; in fact, the family arrangement to which we refer is between two "great geese." These two birds are of a sociable disposition, and have practically arranged—we do not know whether after a previous discussion of the advantages to be derived from "division

of labour" or no—to divide the labour of adding to the family between them. Now, such an arrangement is not unknown among birds, in which a joint nest may be filled between the mothers, and one alternate sitting produce the whole; but in this case the question is very differently settled by these two geese, for the ancient mother goose does not lay any eggs, leaving this part of the programme to the younger wife. No sooner has the young goose laid its quantum of eggs than she leaves all further action to the older lady, who thenceforward sits with exemplary patience until the youngsters appear. Why the young goose should forego her privilege—a privilege which is generally a passion—that the other may be able to gratify her strong maternal instincts, is somewhat strange; and equally unaccountable is the willingness of the elder to wait patiently, and defer her desires, until the younger lady has provided the needful sitting of eggs. There they are, however, as obliging, and, we are satisfied, also far more mutually considerate than any two Mormon wives. April 20.

We have lately been wandering from our own woods, and been obliged to notice the ways of our woodland favourites in different surroundings and other circumstances. One of the most picturesque figures to be seen anywhere among our fields and forest lands, and one of the keenest witted of our native birds, is the magpie, once by no means uncommon throughout the country, but now only existing under sufferance, or by virtue of superior quick wittedness. All game preservers wage continual warfare with a bird whose partiality for eggs is too well known to require to be brought home to the individual by circumstantial evidence; and the consequence is, that the ancient lore in regard to the number of magpies to be met with as we set out on our journeys, and

April 20. their influence on the observer, may in this country be looked upon as interesting, but as no longer possible of application! We do not think we have seen more than one stray magpie in Benderloch, and even of this we are not satisfied. Keen sportsmen even take a pride in the slaughter of an enemy that is so cunning and dexterous; and so the beautiful plumage, the gay tail, and the confident, knowing head is now rarely seen in the Highlands. One would expect that in a land like France, where small birds have almost been extirpated, where a song is so rarely heard in places, and where a so-called sportsman will not hesitate to creep surreptitiously upon a sparrow, that such a noble "game" as a magpie could not possibly expect to exist. Yet, strangely enough, we must have seen thousands of their nests recently in that country—a dozen frequently being in full view at one time from the train, amid the tops of the leafless poplars. All along from north to south the wondrous erections of this gay bird were observable, with the huge protective dome overhead, of all dimensions. Never had we a better opportunity of viewing these remarkable constructions, and we never wearied admiring the skill with which the positions were chosen. Here a tree growing in a submerged meadow was occupied by the bird, evidently under the conviction that no one would cross the water and climb to its retreat. But in this instance—the only one we observed—the bird had miscalculated, as a low, flat-bottomed boat was underneath, and a foe on the way upward. Now, the point of vantage was a tree-top of such attenuated character that the weight of the great collection of sticks that formed the nest seemed sufficient to sway it downward, and so no human depredator could ascend. The birds were "skulking" all about—we

know no other word to express the action of the magpie —and yet we never met one within gunshot. Clearly the French magpie has been schooled in the college for the survival of the fittest-to-exist in the midst of a land where their nests are ever in the public eye, and their domestic life deprived of its wanted privacy. No doubt the small value of game in France will not direct attention to their depredations, and perhaps necessity has driven these numberless birds to a more peaceable mode of living than they get credit for with us. April 20.

We were startled on the English coast, in a dull street of a somewhat dull city, by a strange yet not unfamiliar sound close beside us. It was not the ordinary croak of a raven, yet could scarcely come from any other throat, and looking round we caught sight of his sable majesty seated on the front of a coal cart, keeping watch and ward during the absence of the owner. We felt quite drawn towards him, and, stopping, asked tenderly if he had ever picked a lamb on Ben Breac, or progged the eyes out of a half-frozen Alpine hare on the slopes of Cruachan? He met our advances with imperturbable gravity, and the same peculiar mechanical note, that seemed to be a croak broken short in the middle for fear it should carry too far. What a beautiful bird it was, to be sure, and how kindly we felt towards the reformed vagabond, who declined to own to any little peccadillo that could compromise his present respectability.

The week commenced with cold winds, passed into cold showers, and now has arrived at a genial April rain of the old-fashioned sort—that is wakening up nature like a fairy wand. Even the cold showers refreshed us greatly after the endless dry east winds; but when the wind set- April 28.

April 28. tled in the west, and had melted the snow and warmed itself, the effect was magical. Two days, and we have leaped from desolation into greenery. And yet we are as far advanced in this out of the way corner as in the south of England, nor did we see as much green anywhere in the south as in our more sheltered young larch plantations! This morning the bees were busy at work, and, strange to say, they had something to work at in the gooseberry blossoms, and bursting flower-buds that had been standing impatiently waiting for the rain to bless them. The tassels on the larch had not advanced the smallest fraction during the past month, but everything now seems to endeavour, by taking thought, to add a cubit to its stature.

Yester-even the geese were heard in the dusk for the first time this season on their way north. So they must have scented the change, and are hurrying homewards to the northern breeding lochs, no longer imprisoned by the ice king. We never recollect seeing so few lambs, nor these so weakly-looking, as during our recent run on the Oban Railway. The whole country was burned up by the continuous east wind, and the poor mothers seemed more bothered than pleased with the presence of their young, while these had not life enough in them to play. We saw a sad proportion of dead, too, lying in nooks and crannies by the way.

In marked contrast to the shore, we find the sea busy with her summer vegetation, and the water by no means so cold, these early days of this week. Already a vast growth of marine annuals have sprung into existence, covering every article to which they can affix themselves, and hiding great stretches of sea-bottom for the rest of the summer, until the autumn arrives, when they loosen

and are thrown ashore, to prove delusions so far as man- April 28.
urial value goes, for these rapid growths are almost all water and loose-celled tissues, and although when fresh they weigh a good deal, when dried they shrink up into very small bulk. They must act as a sort of protection in summer to multitudes of marine embryos, which will have reached a considerable maturity ere their protecting shadows disappear.

We seem to have been especially favoured by a lot of very unwelcome visitors, in the shape of huge bloated star-fish upwards of a foot in diameter, and of most unpleasant appearance. We chucked several into our boat with our iron, but we fear too late to prevent their spreading, as multitudes of minute fellows of about ¼ inch diameter are already appearing along the shore. One of those we drew out disgorged a large specimen of those burrowing shell-fish (*Myæ*) which it had enveloped. It had evidently lain over the creature in the mud and gradually sucked it up out of its place of would-be security, until it could enwrap it, shell and all, in its half protruded stomach. Although only half swallowed when we brought the star-fish up, yet the mollusc had already sickened, and must have been practically choked ere it was drawn out.

The whelk spawn is now most plentiful, and may be seen in huge masses sticking to the stones and rocks all along the shore. The reason for the successful hatching of these youngsters is no doubt the skill with which the parent whelk, as a rule, deposits it in sheltered positions —under overhanging stones, and protected by seaweed. This both protects it from sun and frost, and secures a medium temperature when out of the water. No shellfish lends itself more readily to artificial propagation than

April 28. the whelk, for not only is its spawn readily procured and easily attended to, but its food is so easily obtained, that no difficulty need be found in the way of rearing them in multitudes. We should think that their price in the market for bait, compared with mussels or cockles, might well tempt some one to devote a small share of attention to the subject, which is a most interesting one. Their principal enemies in the early stage are small fishes and sea birds, with perhaps small starfish and echini; while as they grow up they have to guard against ground dog-fish and skates, fish that live mainly upon mollusca. None of these creatures are difficult to keep from a particular stretch of foreshore; but the omniverous crabs are a more difficult subject, and would demand more care to keep away at first.

The small value of kelp in these latter days must have had a very important influence on the "economy" of the foreshores of our coast. Great tracts that were formerly regularly cleared for burning are allowed to be thickly clothed with the black kelp ware. The ware itself is not a favourite with farmers, and so is not much taken for manure. Thus the rocks remain covered with this heavy vegetable growth, and give no space on which various classes of shell-fish can affix themselves. The growth gradually becomes too coarse for various mollusca to feed upon, and so the old kelp-makers not only removed a great coarse growth, and made room for spat or spawn, but actually improved the feeding-ground by going over the ground regularly, and keeping a supply of fresh sea-verdure for the sea-grazers. It was like burning the rank growth of heather on the hills and moors.

The young oak trees will shortly be putting out their leaves, and then is the time that a considerable portion

of deaths arise among cattle having access to woodlands. April 28.
The foliage by its freshness entices them to eat, and the results are very frequently fatal, as the leaves possess much of the astringent properties of the bark, and cause severe constipation of such an obstinate character that the animal rarely recovers. We were assured lately by a good authority that the conflicting accounts as to the injurious character of the yew tree to cattle depended upon the condition of the twigs eaten. If they are eaten upon the tree no harm may arise, but if the twigs have been clipped off, and have lain a few days, their action is very severe and often fatal.

MAY, 1881.

Snow fell plenteously a couple of days ago in the early May 5.
morning; and the days have been warm and cold, and back again, so that we do not know how to act, except that "ne'er change a clout till May be oot" is a wise saying, so far as we have gone. Yet the vegetation is progressing with great starts, and the rich rainfall of the past few days is clothing the hillsides with green. We heard the cuckoo first on Saturday last 30th April on the hillside near Cregan Ferry, but we find the shepherd in the glen had heard his call the day before, and we believe an errant damsel from the same wild region had heard the note on Thursday last. This is the earliest date in this quarter for this season. Now the bird of spring is tossing its welcome note from hillside to hillside all around us, while occasional showers of sleet, or even hail, come as disagreeable interludes.

All the birds are busy at work. We surprised a wood-pigeon on its nest a few feet over our heads in the begin-

May 5. ning of the week, and might have captured it, so closely did it sit to its but newly laid eggs. Had the eggs been near hatching we could better have understood its courage. Dodging with uncertain flight along the coast, the sandpipers come and go, pair after pair, in exactly the same quarters as they occupied the previous years. We often wonder whether these are always the same birds, or the previous year's brood, so constantly do certain birds frequent certain localities for lengthened periods. If always the same pairs, the uncertainty of bird life cannot be so great as we believe it generally to be. The oyster-catchers are "preparing," but have not yet prepared, or at least paired, so far as we see. "Two is company, but three is none," in the gay spring time, and they are screeching and squabbling vociferously in trios here and there. They seem to do their courting very energetically, and are by no means shy or reticent; nor could it have been otherwise expected of such a bold, vigorous bird. No doubt the trios are rivals, and it may be that the fortune of war in the winter has thinned the ranks of the marriageable young women oyster-catchers, and so made them objects of double interest in the pairing time.

Although sea birds have not yet paired as a rule, many of the smaller land birds, in sheltered nooks, are well on with their incubation. We saw a hedge-sparrow's nest and eggs on the top of a clump of pampas grass in Ledaig Garden this week, and the eggs had been there since the previous week. Within a foot or two, in the same clump, the poet withdrew the overhanging leaves, and displayed a wren's nest newly completed. The wonder was that either was discovered, so nicely were they hidden from an ordinary inquirer; but the eye of a gardener, who is a loving observer of all that flies, is not easily deceived.

Up the little path under the cliff, to the shadow of the plane tree bursting into leaf, we pass richly-blossoming fruit trees, and many a fostered flower, that nowhere else will be visible for weeks. As we turn up by the tulips peeping at us from a corner of the cliff, we are shown the snug nest of the gardener's tame red-breast—cleverly concealed, despite its confidence in the presiding genius —with the bonny, speckled eggs just on the point of hatching, last Monday the 2nd. From this position we turn and look out over a scene of beauty across Ardmucknish Bay, over which, in the morning, a great flight of geese had passed, coming from the side of Cruachan and passing northward. They must have thought they had made a mistake to find themselves suddenly in the presence of such a summery corner, and, as they circled around it, been somewhat disconcerted as to whether they were passing to the south or the north—so far in advance is Ledaig Garden beyond the land as far south as the border. May 5.

"Surely the jackdaws have not young already," said our friend. "I thought I heard the young birds overhead as I passed along the foot of the cliff." And no doubt he did, as they are very early, more especially about Ledaig. Why, their congeners, the rooks, are so far advanced that the young will soon be taking preparatory flights among the still bare branches of the beeches.

A neighbour brought us a day ago a fine, fat, plump trout that had had its head rather neatly snapped off by some marauder. Why the body had been left was the question, as it could scarcely have made off after such a complete decapitation. A water rat could never have made such a masterly operation, as the head was clearly not knawed off; while an otter would have taken the

May 5. whole at a snap, if it deigned to look at such small fry, with salmon in the loch. So we were forced to consider it the work of a heron, but why the bird should have allowed the fish to go without its head, when a second snap would have secured the whole, was not clear. The bill of the heron is a most formidable weapon, and only such a pair of mandibles could have nipped through the back bone behind the head so neatly. We are not aware of grey crows taking to fishing, even in a trickling burn, although they are desperate robbers in the immediate vicinity of the one in question. The empty egg-shells of the neighbouring hen roosts were evidently the work of these most destructive "vermin," which are as dexterous as they are omniverous. One paid the penalty of over rashness or want of experience a few days ago, but if hens under protection cannot keep their eggs from these robbers, no wonder that grouse pay such a heavy tax in eggs to this sneaking thief. They were quite numerous with us in the winter, but we always spared them as useless; in future we will think less of the crows and more of their prey, nor fail to take a shot when it comes within reach. At present it would require more time and vigilance than we can spare, and the keenest exercise of our wits, to obtain one shot in a fortnight.

It is remarkable to what perfection the art of fish-breeding has now arrived, and how simple the most successful apparatus may be. A neighbouring gamekeeper has brought out many thousand healthy salmon fry this last winter, in a common deal box in his kitchen. The box is neither painted nor charred, nor has he taken any of the numerous precautions usually employed to preserve the health of the youngsters, yet the fish are perfectly healthy, and flourishing in this simple apparatus.

The whole story of this "piscicultural establishment" is May 5.
a remarkable instance of the value of the art of fish culture. The keeper found a salmon partially spawned, and took her out of the water, pressing the remaining eggs into a bucket, where they were fertilised by the male semen. From this remainder the 10,000 young fish have been reared, in an apparatus costing a few shillings, with a runlet from the kitchen spigot. There ought, surely, to be no difficulty in stocking many a barren stream with fish, when they can be so simply and cheaply hatched. Really good water, and enough of it, will render the more costly apparatus commonly employed quite unnecessary; and no doubt the original expenditure is what frightens many a one from entering upon similar stocking experiments.

An hour and a half too late!—that is all. "But, ah! May 12.
the difference to me," and us. Bent upon an excursion to the Black Isle, in Loch Linnhe, and well prepared with the needful for a picnic, we have lost the tide; and so, in place of being helped, have now to face both tide and wind—*our* tide, too—for a considerable way. But we fetch the corner of Eriska with a tack, and that is so much; and on our way quite a lot of black guillemots (*uria grylle*) show up in the rapid waters, and a good flight of sawbill ducks (*merganser*) cross our bows. The woods on both sides of Loch Creran are looking their best in the fresh tints of spring, and where the "new bonnet" has not yet come home, the owners seem to hide their diminished heads amid their gayer fellows.

The day is warm, but somewhat dull, and the gulls are lazily asleep on the bosom of the waters, nor rise therefrom until we are close upon them. No gulls there but

May 12. our own homely specimens, so we look forward to the island to find if any new-comers have arrived. There are a pair of oyster-catchers lying on the beach—one squatting in the warmth apparently, and unwilling to move. Who can have read to them the Seabirds Preservation Act, or explained to them individually the principles of the bill?

Once out of the narrows, we have to settle down to the oars like galley slaves, and crawl up the shore of Eriska until we can reach a point whence we can fetch our destination. Our way is not enlivened by much life, for the mallard ducks are in the islands breeding, and the curlews have only been represented by a single skirling individual, who has apparently failed to secure a mate, and has consequently delayed his departure for the moors, on which his kind are now busily engaged in the labours of nidification. If his temper is no better than his voice, we quite sympathise with those who have rejected his addresses. Now that we are nearing the island, gulls of the larger blackbacked species are showing here and there, and on the island itself the skirmishers of the summer army are perched with picturesque effect on various prominences. The army itself has, however, not yet arrived, although the year is so far advanced. We looked in vain for the sea swallows—not a single specimen could we espy; but this was not surprising, as the day had not yet fully come. This morning, however—that is the following morning—our friend asked us if we had encountered any sea-swallows outside, the day before. No; not one throughout the day. Then they are here this morning, for I saw at least half a dozen of them, he replied, true to the day as usual? An instinct, or knowledge, or special faculty, which of all animal peculiarities seems to us one of the most marvellous! Why should

the sea-swallows arrive on our coasts every year to the day, regardless of the weather? For neither an early warm spring, nor a late and severe one will hasten or delay them a day. We utterly fail to find a rational explanation of these annual movements. May 12.

The ladies are now all on the *qui vive* to get on shore, and we soon run our bow on the familiar beach, and desecrate the purity of this simple retreat with baskets of edibles, stores of peats for a fire, and various important culinary utensils. Once our stores have been carried up the beach and into the luncheon cave, we find that a few sacred matches in the pocket of a smoker is all the store that has been brought, so unusual care has to be exercised in getting our fire into vigour. This effected, we leave the ladies to amuse themselves, and prepare the meal that the long row and the sharp sea air has not failed to make welcome, and we set out on a round of observation. We are just too soon to see anything. The birds, with the exception of a sprinkling, have not yet arrived, and all life is remarkably absent. Why did we not bring a dog? Here is fresh marks of the otter in the mouth of this burrow. Whoo! Here he must have scratched as he passed up this steep path this very morning, and here again he has rolled himself in the sun but an hour or two since. He will not roll in the sun when we are here at any rate, so we may pass on.

It is clear the gulls have just come, as no nest is to be seen, so we stroll along the edge of the cliff, and peep now and then into the dull herbage, just becoming somewhat relieved with the fresh green of the blaeberry bushes, pushing themselves bravely upwards. As we go on we find actually a few berries already red on the bushes, for these gay sea islands are always early. We hear a

May 12. shout from a happy young voice, and soon the owner appears with a handful of the first wild hyacinths of the season. They are scattered all over the sward as we proceed, and are graceful ornaments to the sloping banks.

Ah! some birds have begun to nest at any rate here, for at the mouth of this rude den, under the cairn, we find the broken shells of what has clearly been sawbill eggs. This seems early for this duck, but not too early for the blackguard grey crow that has discovered and robbed the nest during the enforced absence of the poor mother. We step into a cleft in the rock which might be termed a cave, and find considerable vegetable growth at the furthest end, while our friend who is nest-hunting, finds his first nest in the island! He does not seem sufficiently satisfied therewith, wonderful as it is, for it is only the beautifully-white, top-shaped, little enclosed bag, of most delicate manufacture, in which mother spider has enclosed her eggs. We hear the dull reverberation that tells of a shot from our companion, and we guess that only at one of the hawk tribe is his powder expended. The peregrine, however, did not show to-day, but a pair of sparrow-hawks, evidently nesting on the cliff, were subjected to a notice to quit, of which they only took temporary notice. A shout from a "gay girl graduate" in natural history tells us that a little lizard, basking on the rocks, has slipped down into the vegetation, and so kept discreetly from beholders more inquisitive than sympathetic where specimens are procurable. We come upon the dead body of a kid that has evidently been unable to withstand the severe winter, although two kids still follow the small flock of goats upon the hill. The winter must have tried them sorely, not only from the extremity of cold, but still more from the continuous

east wind, which seems to have dried up every green thing both on mainland and islands, except in sheltered and protected nooks. Our comrade points out the bleached white stem of a holly, with a single live branch, even this hardy tree, well sheltered by the cliff as it was, having been severely tried by those lifeless winds. May 12.

We determine, however, to have the best of both wind and tide on our way home, and fearing lest the wind that is now favourable should turn with the tide, and play us the same trick as in the morning, we hurry off. With an occasional friendly try at an oar at an unfriendly corner, we run our party safely into the stream in front of our cottage, with our baskets much lightened of provender, and at least bronzed faces and good humour added to the party since the morning.

We have had the martins with us since Sunday last, only a week after the cuckoo.

We have already had a very remarkable season, and it continues equally eccentric. Here we have had two days of south-west wind accompanied, not with balmy showers, as the warmest wind of the heavens should be, but with bitter driving showers of hail and sleet, as severe as any we have had. This can surely mean nothing but masses of floating ice in the Atlantic over which the wind is blowing, or how else are we to account for hail with a south-west wind in May? We have had several days of very heavy rain also, and this has culminated in more warmth. To Oban the rain has just come in time, as what with the long dry summer of last year, and the continuous drying east winds of the winter, they were sadly off at the very beginning of the summer. No doubt the east winds did more to bring drouth than heat would have May 20.

May 20. done, as nothing will so sweep the damp off the verdure, the water out of the hillside mosses, and the *sap* out of the animal and vegetable world.

Yesterday we had a fortunate day after a wet morning, and were happy in seeing as thoroughly characteristic an assemblage of the "animal" world of the surrounding country as is readily to be met with. Near the mouth of the wild Highland stream, and not far from the foot of the gracefully-shaped hills, one of those strange gatherings now becoming, unhappily, too common in the country had come together. No one but those who have seen and mingled in the heterogeneous mixture of wild, uncalculating excitement and keen bargaining that goes to the making of a farm sale in the Highlands, can have any idea of the novelty and raciness of the scene. In the one to which we refer we had a peculiar opportunity of examining the types of the human inhabitants from all the surrounding country, and much we should have liked to have photographed them individually. Nowhere in a city could such a lot of strong faces, with marked individuality depicted in every vigorous line, and no two of them cast out of the same mould, be anywhere brought together.

Long planks are set alongside rude tables in the barn, and throng after throng enters and partakes of a cold collation before the sale commences, for many have come from long distances. Here are an unbroken band of islanders from Lismore, no doubt seeking sheep to take back to their green, limestone island; there are solid-looking farmers, with the long nose, strong bones, and harder figure of the interloping Lowlander. Quaint faces are there from the higher glens, looking as if an assemblage of their fellows was a rare sight, and shyly slipping through

among the crowd as if from a "furren lan." Except at May 20.
the kirk or the fair, they only read the intelligent faces of their sheep or the shrewd heads of their Highland cattle. Silently, rapidly, the viands disappear, for the ice is not yet broken, and to a wayfarer the day is close and warm, and apt to still the tongue. But the bottle is passing round, with an occasional toast in broken language to the good luck of the incoming or outgoing tenant, coming from a halting tongue; for "public speaking" is not a faculty of the non-gregarious farming race, and there is an undercurrent of belief at this early stage that the toast is only a weak excuse for the whisky, and not the whisky an adjunct of the toast.

One asks oneself, wonderingly, what all this varied throng have gathered for? More than one face unhappily answers for itself, that it has only come for whisky! Many have come out of goodwill to the seller and to swell the crowd; for it is a curious fact, of which every one there is perfectly cognisant, that the bigger the crowd the higher the prices. Perhaps there are only a few buyers of certain classes of stock, and if they were pitted against each other in the open they would go within a few shillings of each other, and only to the market price. Planted among a multitude the story is different, and prices are run up to a *sale price*, which in the country means a big one. But they must get a little excited ere they lose their natural keenness and hardfistedness, and whisky is required, as well as the "catching" excitement of a throng. They all know this, too, and many have come with the intention of getting liberally excited with the occasional circling bottle, and so laying out a little money for the good of the tenant who is leaving. We will have a sale ourselves some day, say the better class to themselves

May 20. and to you, and we expect as much to be done for us; so in most cases of tenants who have been kindly and neighbourly, the sale price is above the market rates, and does well for the outgoing tenant.

To-day we have a fine lot of "Highlanders," as farmers lovingly term the handsome little Highland cattle, and as they issue from the byre and are ushered with a rush into the middle of the ring of farmers and friends, a buzz goes round the throng. Each animal is carefully examined and criticised, but to a practised eye a glance is sufficient to decide on the value of an animal, whose kind is so constantly passing under his hands, that every possible point becomes stereotyped in the mind. The free motion, the bright eye, the clean horn, are all as much noted as the well-shaped head, the good shoulders, and the shapely quarters. What an excitable lot the men and animals both are, to be sure; as the beautiful dun-coloured heifer dashes headlong amid the circle of waving sticks, the wonder is it does not madly clear the throng; but they are amiable animals after all, and, despite the gesticulations and stick flourishing, the bewildered animal meets nothing but kindly glances from the encircling lovers of "Highlanders."

We shortly turn aside from the plunging heads of the finely-horned sheep, and the ewes with lamb at foot, and look up at the "black glen," now blue-black in the evening light, and with a beautiful green fringe of larch standing out against the dark depth. A patch of snow still clings in a deep cleft overhead; but the showers are warm at length, and the whole country is decking itself in its brightest raiment; the cuckoo is calling vociferously from all along the hillsides, and many varied birds are flitting across the scene. Yet, as we turn to the company

gathered from Highland glen and island slope, we cannot help noting how infinitely greater is the possibilities of study to a naturalist in this one branch of a single variety of one species of animal, to all the feathered, furred, and scaled inhabitants of the surrounding sea and shore. May 20.

We have had our ordinary ideas somewhat "whumled" of late by the peculiarly contrary conduct of the winds. Last week we had specially cold winds from the warmest quarter, and this week we have had summer make its appearance with a sudden bound, in two excessively hot days with a dry *east* wind. Wherefore the peculiarly soft and warm character of the east wind on these occasions? May 26.

Monday the 24th was indeed a princely day, and with the tender green of spring everywhere the country looked its best; for the *day* was summer, and the very late season made the *country* spring! We penetrated some little distance among our finest mountain scenery, only to feel how beautiful it was, but how much it was dependent in ordinary times upon mist and cloud for its grandeur. Without these Scotland is beautiful but tame. Wandering along the Appin shore, with its warm southern exposure, we came upon a crowd of tadpoles in one of the ditches, where exactly two months earlier we had met them last year! And yet these are the first we have met this season, a clear proof of its great backwardness. We cannot step from the path anywhere into the wooded or copse-clad lands without tramping upon a carpet of primroses, still as plentiful, as fresh, and as beautiful as ever. Sprinkled here and there all among them now, we are meeting blinks of blue of higher stature than the scentless wood violets, in the half-opened flowers of the wild hyacinths; while the wood anemones and trefoil are disappearing, and

May 26. preparing to give place to a summer sward. Overhead, the bees are busy in the lime trees and the horse-chestnuts, which latter are gorgeous in attire, with their huge, heavy-scented flowers crowning each upward-curving twig. The sound as you pass underneath is the outcome of a busy community, all earnestly intent upon doing with their might what their proboscis finds to do. On the path on Monday and Tuesday, in the heat of the day, ants were literally in myriads in the woodlands. Crossing and re-crossing with desperate haste, and no doubt killed in multitudes by the various passers-by, yet quite regardless of aught but the immediate object of pursuit.

Numerous sandpipers, one by one, rise from the shore road as we traverse it. They are apparently enjoying the heat, and dusting themselves not far from their sitting mates, who, no doubt, are on matronly thoughts intent in some neighbouring tuft of grass. We found these birds particularly numerous this season.

We leave the sea, and turn inland, the sudden heat of the day telling upon our scarcely thawed system, and as we jog across the moorland road, with an occasional glance at the sunlit hills, half dreamy-looking in the heat haze, we do not fail to throw a quick look as we hear a sharp rustle among the dry leaves in the ditch, or the rotten branches by the way. Is it a weasel or a rat, a shrew mouse or a mole, or what can this particular sound or that especial movement mean? Who does not know the possibilities of a country walk, and the pleasurable expectation that is ever stirred in the mind thereby. There is a sudden movement close at hand, and we make a pounce, half expecting a mole, and at least desirous of knowing the cause of the disturbance. Our rapid movement and "stick-play" bring out a tail evidently very

desirous of disappearing, but, expecting to have caught an adder unawares, we soon jerk the owner of the said tail into the road, when to our disappointment we find it is only a poor blind worm. These creatures are so difficult to procure uninjured, possessing as they do the brittle character of the adders, that we took some care to slay it decently; and having done so, and slipped a noose over its head, we took it along with us on our journey. Of course, no one in the country believes them to be other than adders, or refines sufficiently upon such creatures to note the difference between them and the venomous reptile. From amid the decaying herbage in which the poor, innocent, timid little reptile endeavoured to conceal itself, the wild strawberries were everywhere peeping, many of their dainty white blossoms already showing. Where are all the thrushes gone to? ask our friends. They used to be very plentiful in Appin, but now you will scarcely see one since the severe winters of two years ago, and last year they seem to have disappeared. The same on our own side, and, yet the extremely timid and delicate blackbird has survived better than the thrush as a species. No doubt our friend's suggestion, that the blackbird will take to grain feeding more readily than the purely insectivorous thrush, may account for its survival under the circumstances. We have never known them resort to the sea-shore in this locality and feed upon shellfish, as they do in such multitudes in the Hebrides. No one hereabouts has ever heard of such a thing, or seen a thrush eat a shellfish or frequent a beach. It is strange that the "islanders" should exhibit so much greater power of accommodating themselves to circumstances. May 26.

A very remarkable instance of perverted instinct, or

May 26. rather of the maternal instinct dominating over what is almost equally strong in carnivorous animals, is now exhibited in our vicinity. A cat that is noted for its skill in hunting, more especially skill in the capture of rabbits, has two young kittens at present. These are lying snugly in a barrel, whence the cat issues regularly on her midnight excursions. The other morning the first visitor discovered a young rabbit lying along with the two kittens, and fearing lest it was merely left for a little and would be killed when the cat returned, she removed it, but on second thoughts replaced it on the return of the cat. To her surprise puss received it with every sign of motherly consideration, and took great pains to endeavour to make the poor little rabbit suck along with her own progeny! She had evidently felt the necessity for a larger family, and this had overcome her natural instinct to devour whatever appeared in "a rabbit's skin." At present she devours it with kindness, but whether this feeling will continue when she finds the necessity for being relieved of her milk depart, will be very interesting to observe. Such fostering has not been unknown when the cat had lost her whole family, but to add a rabbit to make up a proper number seems a most exceptional action on the part of such a bloodthirsty animal as a cat, most of whose relatives will kill and slay for the mere love of slaughter, long after they have satisfied any calls of hunger.

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